FT-767GX
TECHNICAL SUPPLEMENT

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TOKYO, JAPAN

FT-767GX TECHNICAL SUPPLEMELT



This manual is intended to serve as a technical supplement to the FT-767GX Operating Manual. Detailed information regarding functions, installation, interconnections and operation is provided in the Operating Manual, and is not reprinted herein. Therefore this Technical Supplement is not intended to serve as an independent reference, but to be used in conjunction with the information provided in the Operating Manual.

Because there are over 280 circuit stages in the fully-equipped FT-767GX, circuit description is provided by numerous block diagrams supplementing the schematic diagrams. We trust that this manner of providing functional information will prove more helpful than would a lengthy verbal description. Readers who are unfamiliar with the basic types of analog and digital circuits that serve as the building blocks of the FT-767GX may benefit from studying basic instructional texts published elsewhere, such as in handbooks on amateur radio and digital circuit design, before attempting to understand the design of the FT-767GX. Each block in the block diagrams represents one such basic circuit, with specific circuit details provided in the schematic diagrams.

While we believe this technical information is correct and factual, some errors are bound to be present, and those known at the time of printing have been noted at relevant points in the Alignment Instructions. Yaesu assumes no liability, however, for damage that may result from typographical or other errors that may be present. Readers' cooperation in bringing to our attention any inconsistencies in the technical information is appreciated.

Yaesu Musen strives to keep all officially appointed distributors of the FT-767GX advised of all significant design changes that may be developed, in the interest of technological improvement, during the course of production. Said distributors may elect to incorporate such changes at their discretion. However, neither Yaesu Musen nor its distributors can accept any obligation to advise owners or modify previously produced sets based on such design changes, beyond that which may be required by law.

SERVICE AND ALIGNMENT

The FT-767GX is carefully designed to allow the knowledgeable operator to make all adjustments required for various installations, modes and operating preferences simply from the controls on the front and rear panels, without opening the case of the transceiver. These adjustments are described in the FT-767GX Operating Manual.

The following procedures cover the sometimes critical and tedious adjustments that are not normally required once the transceiver has left the factory. We recommend that these adjustments be made only by authorized Yaesu service representatives, as many are interdependent and difficult to perform correctly without extensive prior experience with this type of procedure. Without such experience and the proper test equipment, any attempt to make internal adjustments may cause degraded transceiver performance, the correction of which is not covered by the warranty policy when caused by unauthorized internal adjustments.

In the unlikely attempt that a sudden failure occurs during normal operation, do not attempt realignment. Such failures are almost always due to the failure of a component, sometimes in and external accessory, or a problem with the antenna system. After all external connections have been checked, if the transceiver is still suspect, the dealer from whom the set was originally purchased should be contacted immediately for instructions regarding repair. Authorized Yaesu service technicians automatically perform complete performance checks and realignment of all circuits that may be affected once a faulty component has been replaced.

Those who do undertake any of the following alignment procedures are cautioned to proceed only at their own risk. Yaesu must reserve the right to change circuits and alignment procedures in the interest of improved performance, without notifying owners. Under no circumstances should any realignment be attempted unless the normal function and operation of the transceiver are clearly understood, the malfunction has been carefully analyzed and any faulty components replaced, and the need for a specific realignment determined to be absolutely necessary. Procedures not involving adjustments are called 'Checks', and are provided to aid troubleshooting.

The following test equipment (and thorough familiarity with its use) is required for complete alignment. While most steps do not require all of the equipment listed, the interactions of such adjustments may require that more complex adjustments be performed afterwards. Do not attempt to perform only a single step unless it is clearly isolated electrically from all other steps. Rather, have all test equipment ready before beginning, and follow all of the steps in the order that they are listed in each section.

During all of the following procedures that call for the transmitter to be activated (MOX button pressed), a 50-ohm dummy load and in-line wattmeter must be connected to the relevant antenna jack, except where specifically stated otherwise. After the adjustment in any of these steps, return the MOX button to its OFF (out) position before proceeding to the next step. In no case should the MOX button be left depressed for more than the minimum amount of time necessary, which should be less than 30 seconds.

Also, the SHIFT control must be set to the 12 o'clock position, the RF gain control must be fully clockwise, and the SQL control must be fully counterclockwise during all steps, unless indicated otherwise.

After completing each step, read the following step to determine whether the same test equipment will be required. If not, remove the test equipment (except the dummy load and wattmeter) before proceeding.

COVER REMOVAL

(1) Switch off the transceiver and remove the AC power cable and all other cables from the rear panel.

(2) Remove the two screws affixing each VHF or UHF Band Module, and slide the Modules out of the transceiver (Fig. 1).

(3) Remove the two screws at the front of the top cover (heatsink, Fig. 2).

(4) Place the transceiver upside down, and remove the four screws from the bottom corners and two on either side (including the carrying handle screws). Remove the carrying handle and bottom cover (Fig. 3).

(5) Referring to Figure 4, remove the 7 black painted screws from the rear panel. Then remove the (black) outer rear panel.

(6) Referring to Figure 5, remove the 10 screws from the inner rear panel, and remove this panel.

(7) Remove one screw on either side, as shown in Figure 6.

(8) Locate the white molex connectors (one for power and one for the speaker) inside the rear of the chassis, and disconnect them.

(9) Fold the lower half of the chassis away from the upper half, placing a book of about the same thickness of the heatsink under the bottom half as shown in Figure 8.

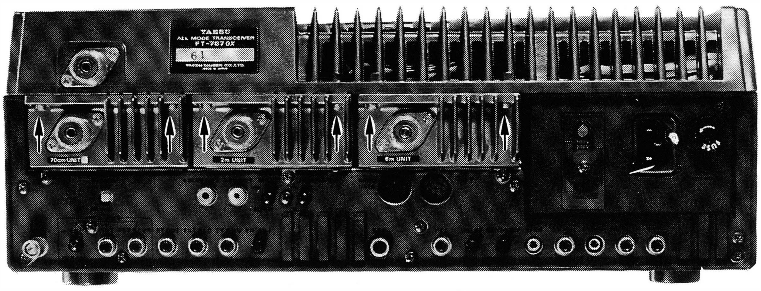


Figure 1

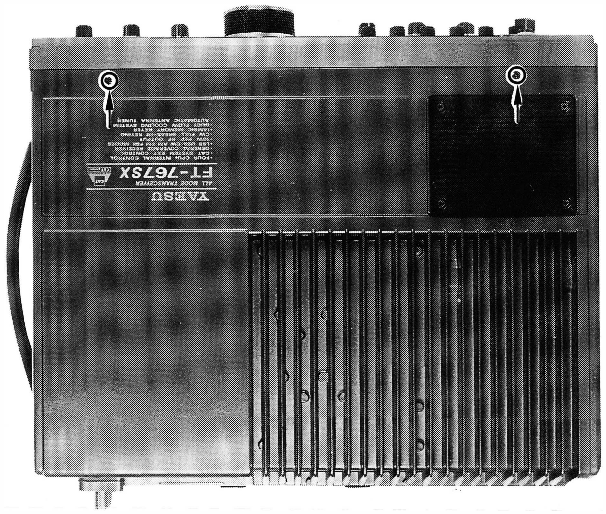


Figure 2

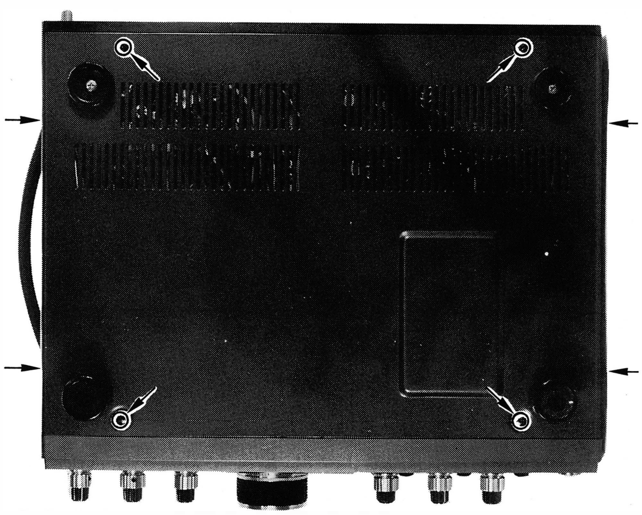


Figure 3

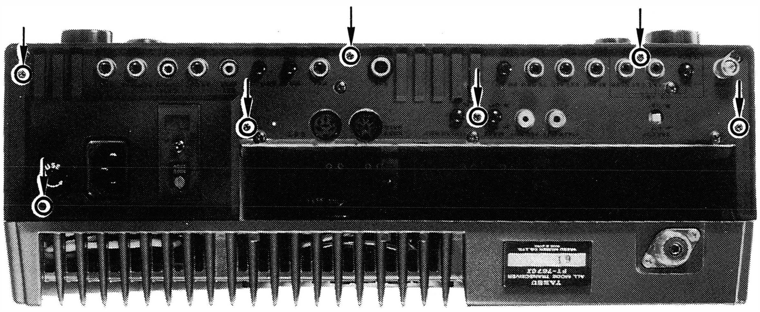


Figure 4

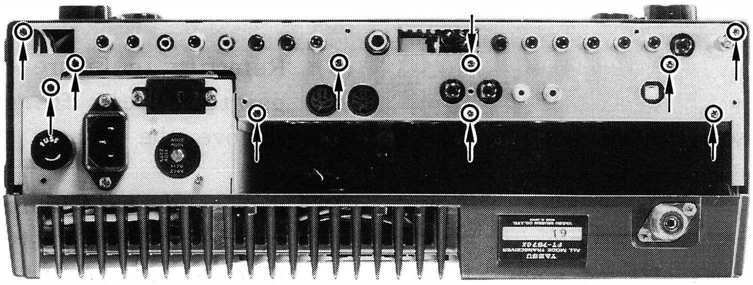


Figure 5

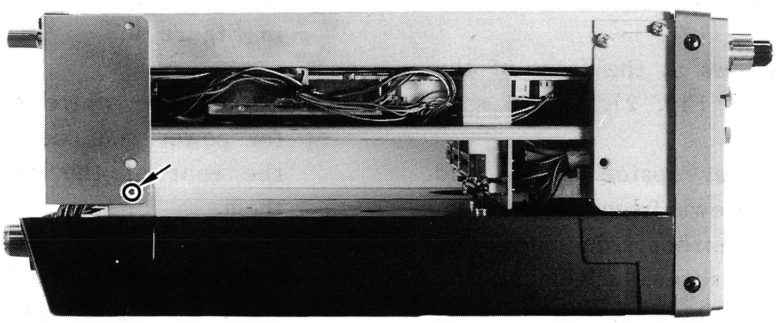


Figure 6

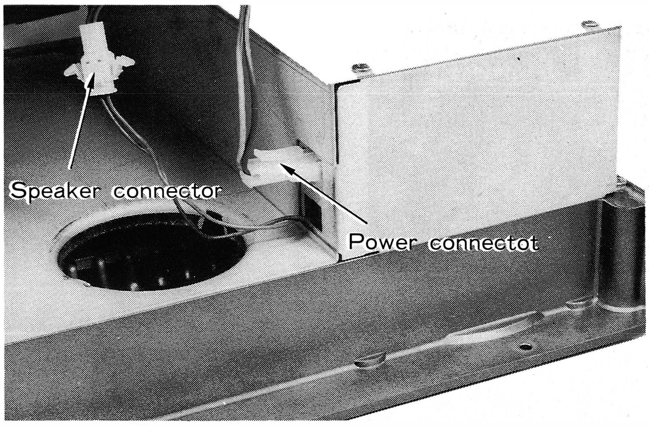


Figure 7

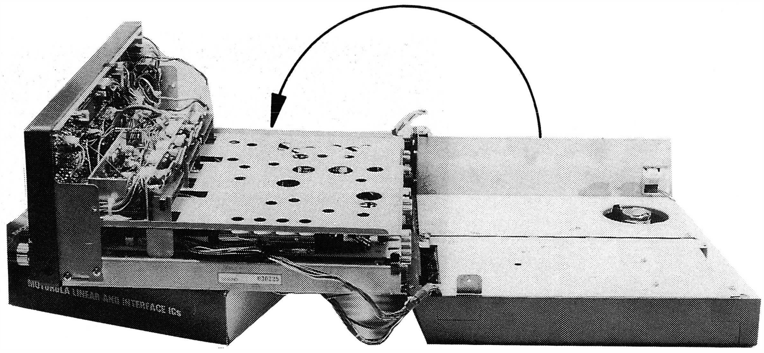


Figure 8

Alignment Equipment

Frequency counter will accuracy of 0.1 ppm to 500MHz

DC voltmeter with at least 10-Megohm impedance

RF voltmeter with at least 5% accuracy to 500 MHz, high impedance, ranging from 10 mV to 3 Vrms, and indicating dB (see note below)

AF millivoltmeter

DC milliammeter ranging to 500 mA.

Spectrum Analyzer or X-Y oscilloscope with 120 MHz bandwidth (for 2m Band Unit Alignment)

In-line RF Wattmeter

50-ohm non-reactive dummy loads: three required, at least 150W Pd.

3-ohm, 60W resistor

RF signal generator covering up to 500 MHz, with calibrated output level from 5 dBu to 100 dBu, and adjustable FM modulation.

AF signal generator with calibrated output level at least from 1 mV to 25 mV.

FM deviation meter/Sinadder and RF sampling coupler 'T'.

Linear Detector for up to 30 MHz.

NOTE: All RF voltage measurements are referenced to 0 dBu = 0.5uV @50 ohms relative to chassis ground nearest the measurement point.

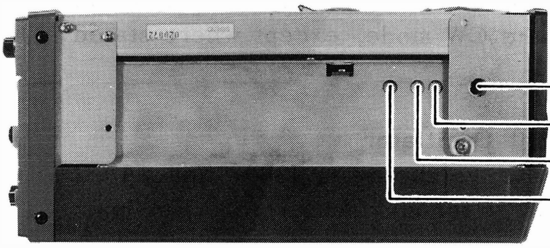
POWER SUPPLY

(1) 24V Supply

On the PA Unit, connect the DC voltmeter to J9002 (J8009 for 10W version) and ground. Adjust VR6003 on the PS Unit for 24.0 ±0.5V while receiving.

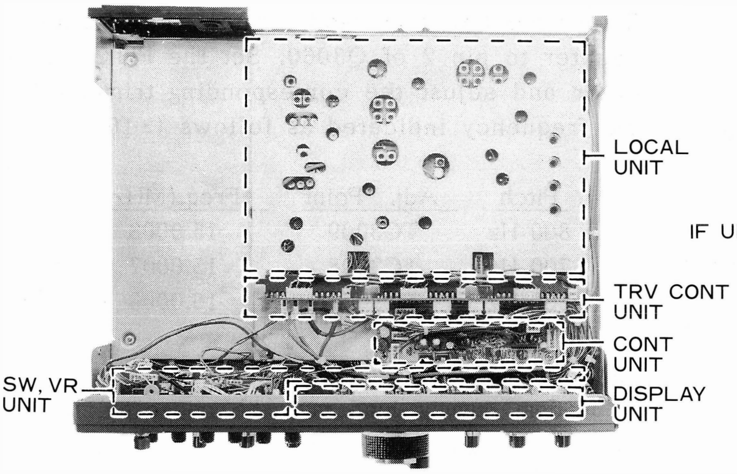
(2) 13.5V Supply

On the PA Unit, connect the voltmeter to J9007 (J8007 for 10W version) and ground. Adjust VR6004 on the PS Unit for 13.5 ±0.3V while receiving.

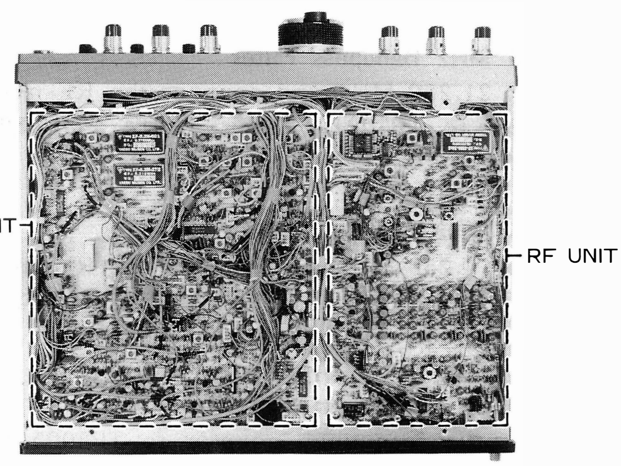


PS UNIT Alignment Points

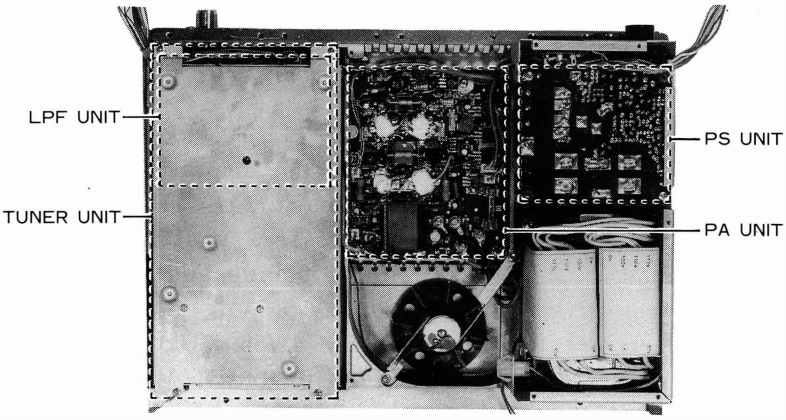
BOARD LOCATIONS



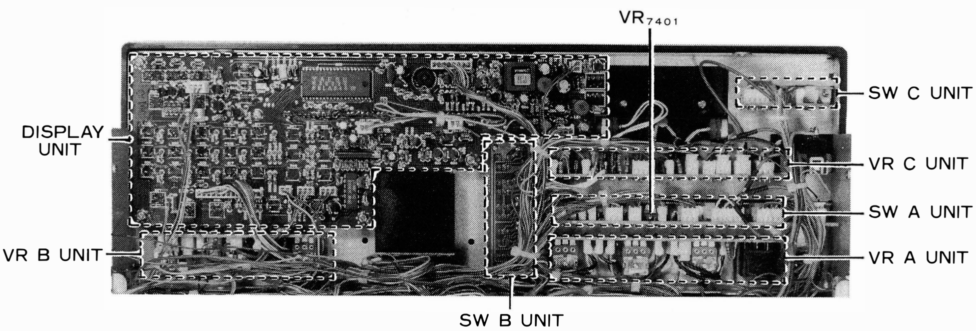
Chassis Top View



Chassis Bottom View



Underside of Heatsink



Inside of Front Panel

LOCAL UNIT

Make all measurements and adjustments while receiving in the CW mode, except where stated otherwise.

(1) 3rd Local Oscillator
Connect the RF voltmeter to J3002 and adjust T3023 and T3024 for maximum voltage (at least 50 mVrms).

(2) 45 MHz Bandpass Filter I
Tune to 14.250 MHz and connect the RF millivoltmeter to TP3005. Adjust T3017 and T3018 for maximum RF (at least 50 mVrms).

(3) 60 MHz Bandpass Filter
Tune to 21.250 MHz and connect the RF millivoltmeter to TP3001. Adjust T3014 and T3015 for maximum RF (at least 80 mVrms).

(4) 45 MHz Bandpass Filter II
Tune to 14.250 MHz and connect the RF millivoltmeter to TP3001. Adjust T3012 and T3013 for maximum RF (at least 80 mVrms).

(5) 15 MHz Reference TCXO
Connect the frequency counter to TP3005 and adjust the trimmer accessible through the hole in the TCXO for 45 MHz ±10 Hz.

(6) 2nd Local Oscillator & D/A Converter
Tune to 14.0000 MHz and connect the frequency counter to TP3007. Adjust TC3001 for 30.03000 MHz ±20 Hz. Now retune the display to 13.99999 MHz and adjust VR3001 for 30.02901 MHz. Ensure that the difference between the two readings is within 990 ±5 Hz.

(7a) Carrier Oscillators
Make certain the SHIFT control is set to the 12 o'clock position. Connect the frequency counter to pin 5 of Q3060. Select the mode indicated in the following table, and adjust the indicated coil or trimmer for the indicated frequency on the counter ±10 Hz.

Mode	Adj. Point	Freq. (kHz)
CW	L3019	6784.100
LSB	TC3002	6786.600
USB	TC3003	6783.400
FSK	TC3004	6787.200

(7b) Transmitter IF Shift
A 50-ohm dummy load must be connected to the ANT jack, as this step requires transmission for measurement and adjustment.

Set the TX SHIFT button OFF (out) and select the LSB mode. Set the TX SHIFT control to the 12 o'clock position. Connect the frequency counter to pin 5 of Q3060. Press the MOX button and adjust VR3002, if necessary, for 6786.6 kHz ±10 Hz on the counter. Now press the TX SHIFT button and if necessary adjust TC3005 for the same indication on the counter.

(8) CW BFO Frequency
Select the CW mode and connect the frequency counter to pin 2 of Q3060. Set the PITCH selector and adjust the corresponding trimmer for the frequency indicated as follows (±10 Hz):

Pitch	Adj. Point	Freq.(MHz)
800 Hz	TC3009	15.0008
700 Hz	TC3008	15.0007
600 Hz	TC3007	15.0006

(9) FM Carrier Frequency
A 50-ohm dummy load must be connected to the ANT jack, as this step requires transmission for measurement and adjustment.

Select the FM mode. With the frequency counter connected to pin 2 of Q3060, press the MOX button and adjust VR3003 for 15 MHz ±50 Hz.

(10) PLL Sub-loop VCO
Tune the display to 13.999.99. Connect the DC voltmeter to TP3003 and adjust T3016, if necessary, for 5.5 ±0.1V. Retune the display to 14.000.00 and check for 2 to 3V.

(11) 41/56 MHz Bandpass Filters
Tune to 14.250 MHz. Connect the RF voltmeter to TP3002 and adjust T3002, T3003 and T3004 for maximum RF (at least 25 mVrms).

Retune to 21.250 MHz and adjust T3005, T3006 and T3007 for maximum RF (at least 25 mVrms).

To check for proper bandpass selection, connect the frequency counter to TP3002 and tune to 1.750, 3.750, 7.250 and 10.250, confirming 41 MHz on the counter at each frequency. Then tune to 18.250, 24.750 and 28.250 and confirm 56 MHz on the counter at each frequency.

(12) Main Loop VCOs

Set the display to 0.000.00. Connect the high-impedance DC voltmeter to TP3006 and adjust transformer T3022 for 1.5 ±0.1V. Retune the display to 7.499.00 and confirm 5 to 6V. Repeat the same procedure for the same voltages at the following frequencies:

Display	Xfmr	Confirm
7.500.00	T3021	14.999.00
15.000.00	T3020	21.999.00
22.000.00	T3019	29.999.00

Check that the voltage at TP3006 increases smoothly from 1.5V to about 6V when tuning from 0 to 7.499 MHz, 7.5 to 14.999 MHz, 15 to 21.999 MHz and 22 to 29.999 MHz.

(13) 2nd Local Level

Connect the RF voltmeter across J3001 (do not remove the plug) and adjust T3009, T3010 and T3011 for maximum RF (at least 90 mVrms).

(14) SSB Carrier Point Check (Transmit)

A 50-ohm dummy load and wattmeter must be connected to the ANT jack, as this step requires transmission for measurement and adjustment.

Tune to 14.200 MHz, USB mode. Connect the AF generator to the center pin of the MIC jack, and set for 5 mV output at 1 kHz. Press the MOX button and adjust the MIC gain control for 80W RF output.

Reduce the AF generator frequency until 20W RF output is obtained, and note the corresponding audio frequency. Now increase the AF frequency until 20W RF output is again obtained, and again note the corresponding audio frequency.

The lower frequency should be below 350 Hz, and the upper frequency should be above 2900 Hz. If not, perform procedures (7a) and (7b).

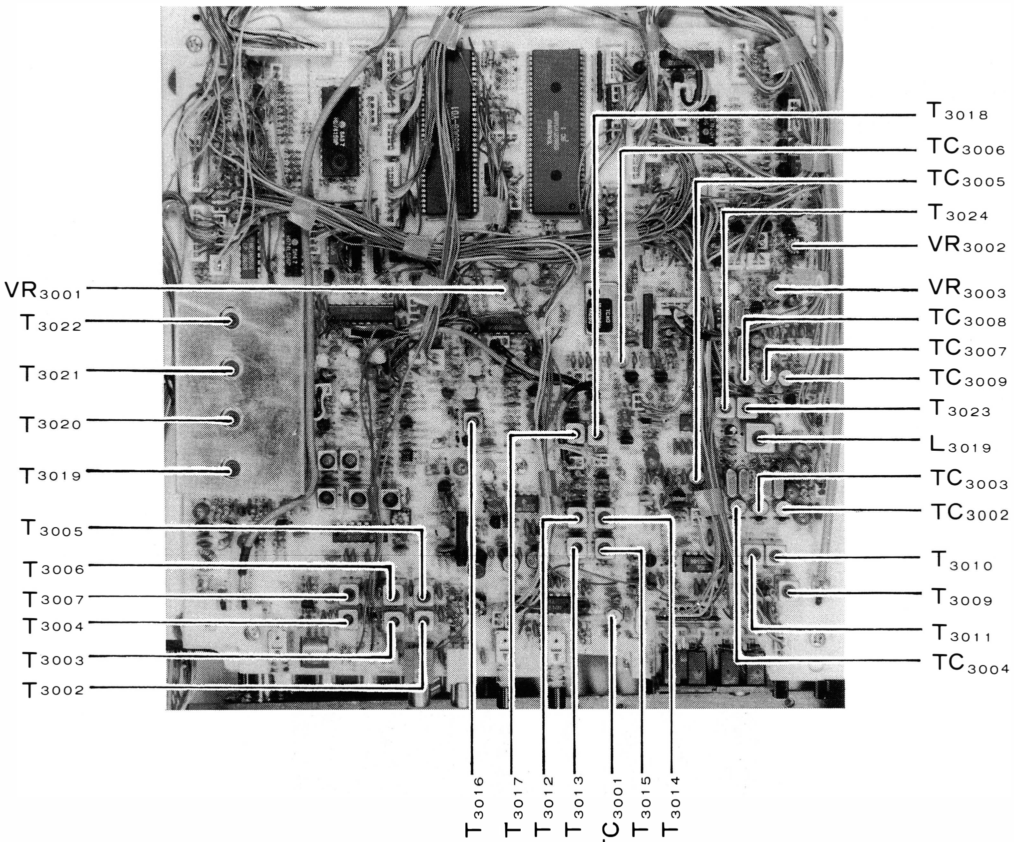
Repeat the above in LSB mode.

(15) 1st Local Level Check

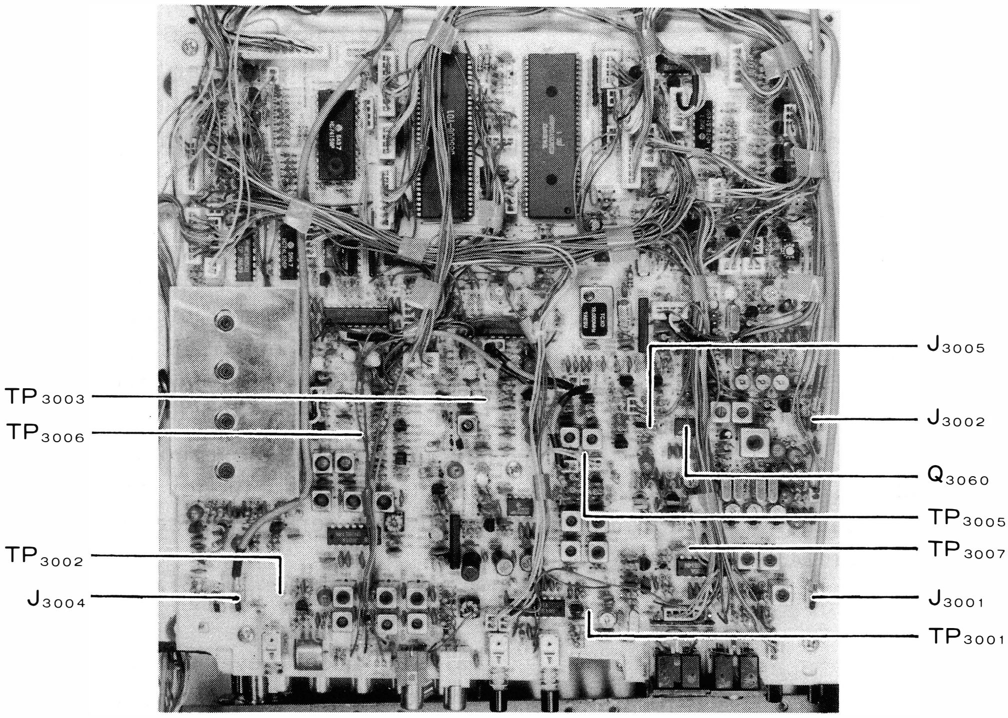
Tune to 14.200.00. Connect the RF millivoltmeter to J3004 (do not remove the plug) and confirm at least 220 mVrms.

(16) VHF/UHF Module Reference Level Check

Set the transceiver to the 50 MHz band. Connect the RF voltmeter to J3005 (don't re-move the plug) and confirm at least 150 mVrms.



LOCAL UNIT Alignment Points

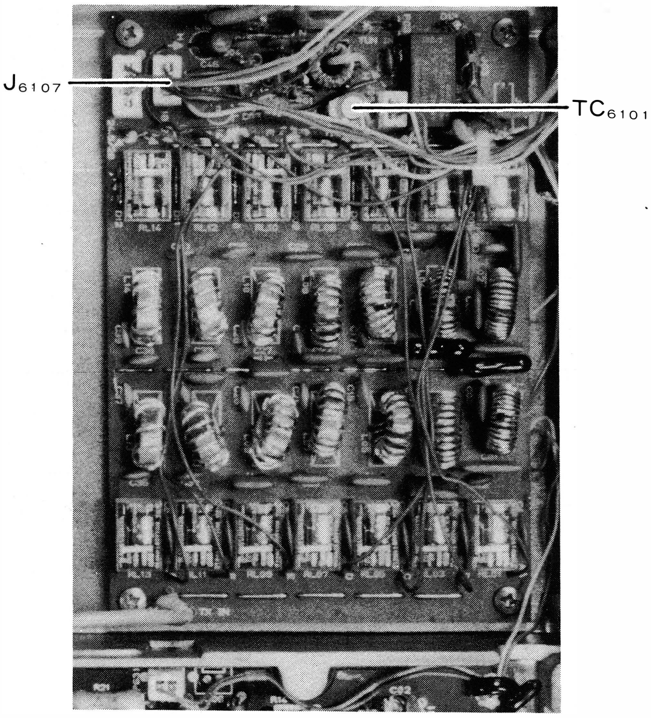


LOCAL UNIT Test Points

LPF UNIT : CM Coupler Balance

A 50-ohm dummy load must be connected to the ANT jack, as this step requires transmission for measurement and adjustment.

Tune to 14.2 MHz CW mode, and set the DRIVE control fully clockwise. Connect the DC voltmeter to pin 2 of J6107, press the MOX button and adjust TC6101 for minimum voltage.



LPF UNIT Alignment Points

IF UNIT

(1) 8.67 MHz Oscillator Frequency (Receive)
Connect the frequency counter and RF millivoltmeter to the base of Q1024. Adjust L1013, if necessary, for 8.670 MHz ±50 Hz on the counter, and T1014 for maximum RF.

(2) 3rd Local Level
Connect the RF voltmeter to the emitter of Q1026 and adjust T1015 for maximum RF (at least 300 mVrms).

(3) 2nd Local Level
Connect the RF voltmeter to JP1020 (do not remove the plug) and adjust T1013 for maximum RF (250 to 500 mVrms).

(4) 8.67 MHz Oscillator Frequency (Transmit)
A 50-ohm dummy load must be connected to the ANT jack, as this step requires transmission for measurement and adjustment.

Set the PROC switch ON (depressed), and the TX SHIFT switch OFF. Connect the frequency counter to the base of Q1024. Press the MOX button and adjust VR7401 on the SW A Unit, if necessary, for 8.670 MHz ±50 Hz.

(5) Receiver IF Transformers
Remove all connections to the ANT jack, and set the transceiver to USB.

Preset VR1006 (IF gain) fully clockwise and adjust VR1008 for minimum S-meter deflection (on BFO leakage). VR1006 will be realigned in step (7).

Tune the transceiver and RF signal generator to 14.2 MHz, and connect the generator to the ANT jack. Adjust the injection level to maintain mid-scale S-meter deflection while adjusting T2003 - T2005 on the RF Unit, and T1003 - T1010 and T1012 on the IF Unit, for maximum S-meter deflection. Repeat these adjustments several times.

(6) IF Filter Compensation
Remove all connections from the ANT jack. To compensate for slight non-symmetry in the SSB IF filters, listen to the receiver while switching between LSB and USB modes, and adjust L1013 (8.67 MHz osc) for the same noise pitch.

(7) IF Gain
With the transceiver and RF signal generator tuned to 14.2 MHz, connect the generator to the ANT jack and set for 6dBu injection. In the USB mode, adjust VR1006 for S-1 indication on the meter.

(8) S-Meter Calibration
While tuned to 14.2 MHz, set the RF signal generator to inject 100dBu at the ANT jack. In USB mode, adjust VR1004 for S-meter deflection to the +60 mark at the right edge.

(9) FM Receive Sensitivity
Connect the SINAD meter in parallel with an 8-ohm resistor to the EXT SP jack. While tuned to 14.2 MHz, set the RF signal generator to inject a 40 dBu carrier with 70% FM modulation of a 1 kHz tone at the ANT jack. Adjust L1007 (may be marked T23 on the schematic, but correct on the silkscreen) for optimum SINAD (minimum deflection) while receiving, FM mode.

(10) FM Receive Audio Volume Preset
Connect the AF millivoltmeter in parallel with an 8-ohm resistor to the EXT SP jack. Tune the transceiver and RF signal generator to 29.2 MHz, and inject an unmodulated carrier at 40 dBu to the ANT jack. In USB mode, adjust the AF gain control for 0.1V on the voltmeter.

Now select the FM mode and modulate the carrier with ±3.5 kHz deviation of a 1 kHz tone. Adjust VR1002 for 0.2V ±10mV on the voltmeter.

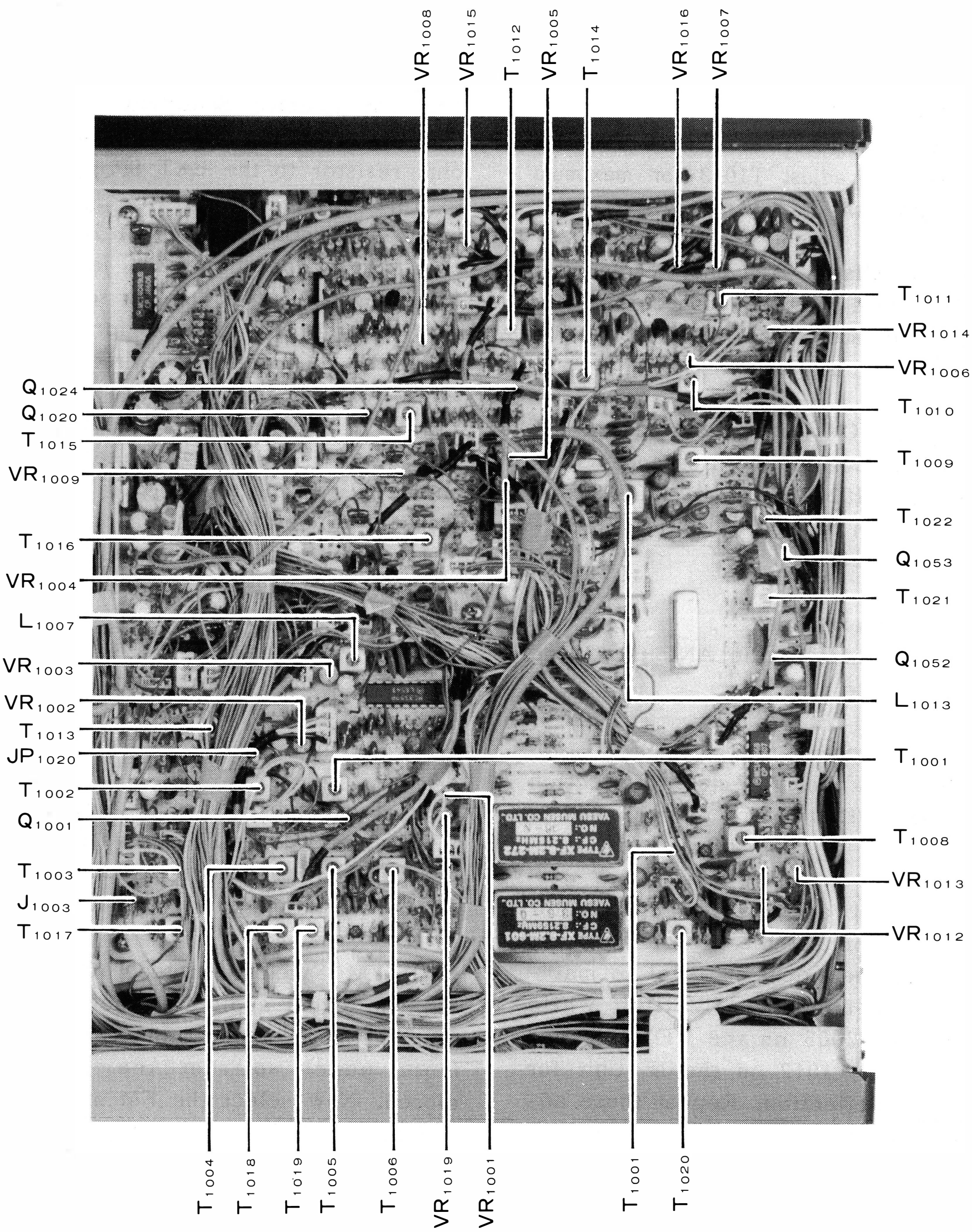
(11) Discriminator Center Meter Calibration
With no signal applied to the ANT jack, set the METER switch to the DISC position and adjust VR1003 for center deflection in FM mode.

(12) FM Squelch Threshold Calibration
With no signal applied to the ANT jack, select the AM mode and set the SQL control on the front panel so that the squelch is just closed. Now select the FM mode and, without moving the SQL control, adjust VR1001 so that the squelch is again just closed.

(13) Noise Blanker IF
Connect the DC voltmeter (10 to 15V range) to gate 2 of Q1001 (with R1001). Tune the transceiver and RF signal generator to 14.2 MHz, and inject an unmodulated carrier at 20 dBu to the ANT jack. Select the USB mode, and press the NB switch on. Adjust T1001 and T1002 for minimum indication on the voltmeter.

(14) IF Notch Resonance
With the RF signal generator tuned to 14.2 MHz, inject an unmodulated carrier at 40 dBu to the ANT jack. Select the USB mode and tune the transceiver for an approximately 1.6 kHz heterodyne on the carrier. Set the NOTCH control to the 12 o'clock position, and the NOTCH button ON. Adjust T1011 and VR1007 alternately for minimum S-meter deflection.

(15) Tone Squelch Threshold (requires FTS-8)
Set the SQL control fully counterclockwise into the T SQL click-stop. In the FM mode, with no signal applied to the antenna, adjust VR1019 so that the BUSY LED just turns off.



IF UNIT Alignment Points

RF UNIT : Transmitter

A 50-ohm dummy load and in-line wattmeter must be connected to the ANT jack for all of the following procedures. All measurements and adjustments are to be made with the MOX button pressed, while all test equipment connections and tuning or mode selection are to be done while receiving, unless otherwise indicated.

(1) ALC Meter Zero Threshold
Set the METER selector to ALC and tune to 14.2 MHz USB mode. With no microphone input, press the MOX button and set VR2007 to the point just the start of ALC indication.

(2) Transmitter IF Transformers
Preset the DRIVE control to the center of its range. With the METER selector to ALC and tuned to 14.2 MHz, CW mode, press the MOX button and adjust T1020, T1019, T1018 and T1017 on the IF Unit, and T2006 and T2007 on the RF Unit (in that order) for maximum ALC meter deflection.

Note: if no ALC deflection is found at first, perform the adjustments first with the METER selector set to PO, and then repeat for ALC. If the ALC indication is too high, reduce the setting of the DRIVE control.

(3) ALC Level (Maximum Power Output)
With the transceiver tuned to 14.2 MHz, CW mode, set the DRIVE control fully clockwise. Press the MOX button and adjust VR2003 for 100W output on the wattmeter (in the 10W SX version, adjust VR2001 for 10W output).

(4) ALC Meter Sensitivity
With the transceiver tuned to 14.2 MHz CW mode and the METER selector set to ALC, inject 3mV at 1 kHz from the AF signal generator to the center pin of the MIC jack. Press the MOX button and set the MIC gain to the point where ALC deflection just begins. Now increase the AF level to 9mV and adjust VR2008 for full-scale ALC deflection.

(5) PO Meter Calibration
With the transceiver tuned to 14.2 MHz, CW mode, set the DRIVE control for 100W output on the external wattmeter. Press the MOX button and adjust the PO ADJ potentiometer (VR2010) on the rear panel so that the analog meter on the front panel deflects to '8' on the PO scale.

(6) Automatic Final Protection (SWR turndown)
Connect a 16.7-ohm dummy load (3 50-ohm loads in parallel) through a wattmeter to the ANT jack. Set the DRIVE control fully clockwise, press the MOX button and adjust VR2005 for 90 ±5W on the wattmeter.

(7) Digital SWR/PWR Meter Calibration
While tuned to 14.2 MHz, CW mode, set the DRIVE control for 100W output on the external wattmeter. Press the RF PWR button and the MOX button and adjust VR2002 for 100W on the digital display.

(8) Transverter ALC Level
Set the METER selector to ALC. Connect a 3-ohm, 60W resistor from pin 3 of J2023 to ground. Press the MOX button and adjust VR2009 for full scale ALC meter deflection. Remove the 3-ohm resistor.

(9) VCC (RF PA Collector Voltage) Meter
Set the METER selector to VCC. Press the MOX button and adjust VR2011 so the meter deflects to the middle of the (white) VCC zone.

(10) SSB Carrier Balance
With the transceiver tuned to 14.2 MHz, CW mode, set the MIC gain control fully counter-clockwise. Press the MOX button and adjust VR2012 for minimum power output.

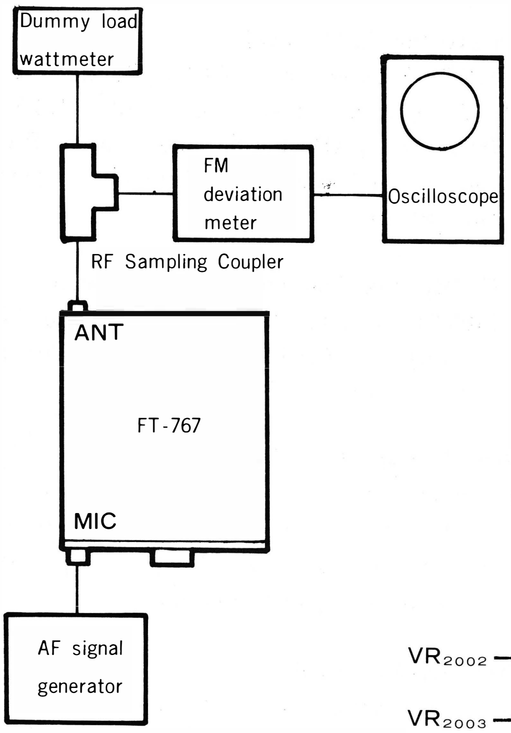
(11) AM Carrier Level
With the transceiver tuned to 14.2 MHz, CW mode, press the MOX button and set the DRIVE control for 80W output. Return to receive, switch to AM mode, press MOX again and adjust VR1012 on the IF Unit for 40W output.

(12) Speech Processor Balance
Connect the RF voltmeter to pin 6 of Q1053 and adjust VR1014 for minimum voltage in an SSB mode with the PROC switch ON.

(13) Speech Processor IF
Set the PROC control to the 9 o'clock position, press the PROC button ON and inject 2mV at 1 kHz from the AF signal generator to the center pin of the MIC jack. Connect the RF millivoltmeter to pin 5 of Q1052 and in an SSB mode, press the MOX button and adjust T1022 and then T1021 for maximum meter deflection.

(14) FM Modulator Deviation

Set up the test equipment as shown below. Preset VR1016 fully clockwise, and inject 10 mV of 1 kHz audio to the MIC jack. Press the MOX button and adjust VR1015 for ±4.5 kHz deviation. Now decrease the AF injection level to 1.5mV and adjust VR1016 for ±3.5 kHz deviation. Repeat these adjustments at their respective AF levels until deviation at both injection levels is within 100 Hz of the specified values.

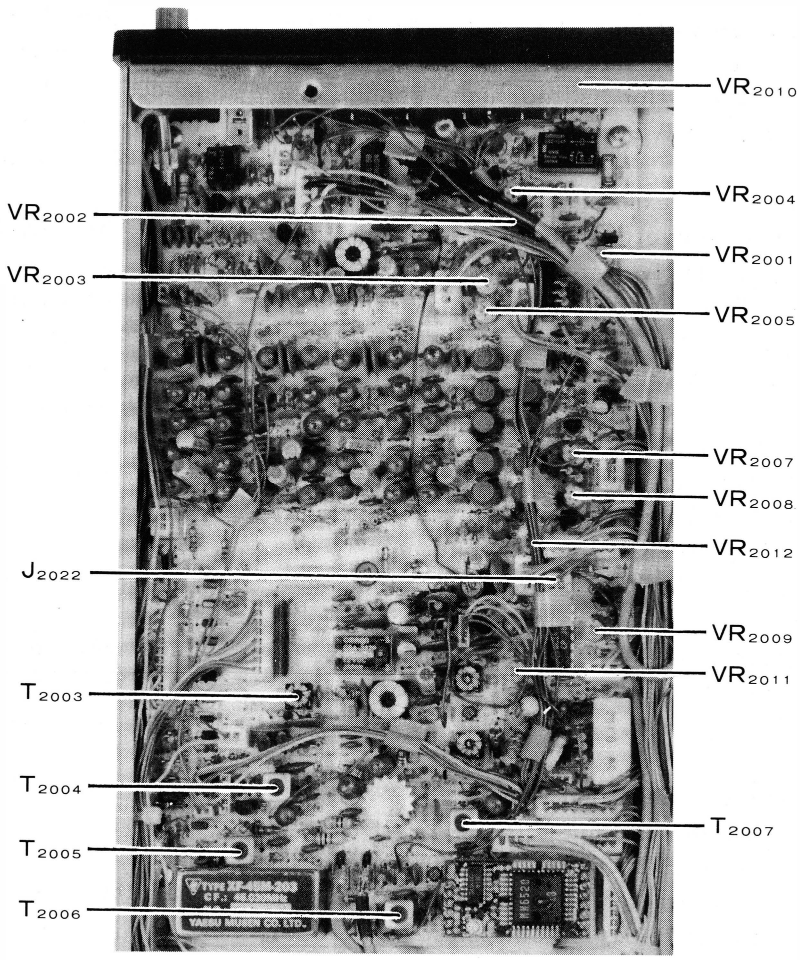


(15) IF Monitor (AM)

With the transceiver tuned to 14.2 MHz, AM mode, set the DRIVE control to the 12 o'clock position. Connect the DC voltmeter to the cathode of D1060, press the MOX button, and adjust T1016 for maximum voltage.

(16) IF Monitor Output Level

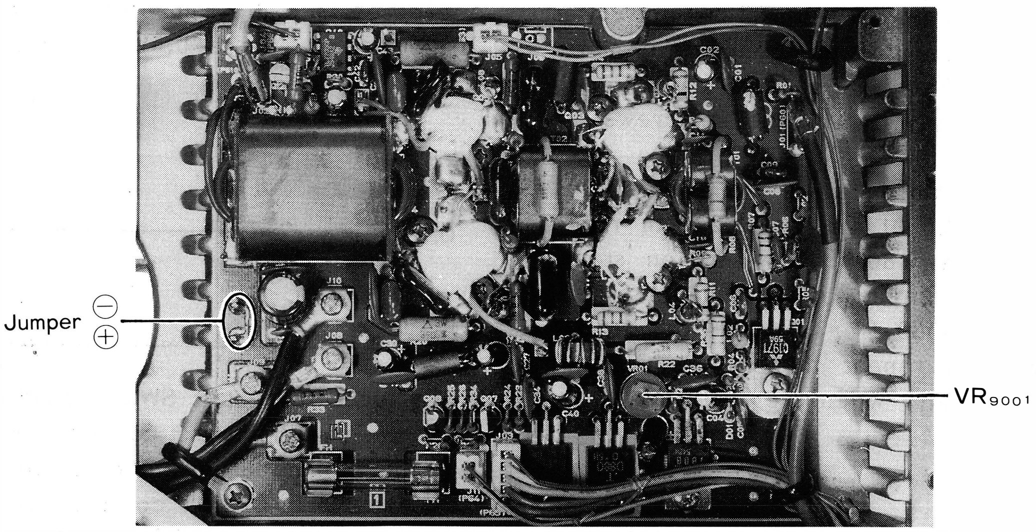
With the transceiver tuned to 14.2 MHz, AM mode, set the MIC gain control fully clockwise, MONI button ON, and MONI control to the 12 o'clock position. Connect the DC voltmeter to the cathode of D1060, press the MOX button, and adjust T1016 for maximum voltage.



RF UNIT Alignment Points

PA UNIT : Idling Current

Remove the jumper indicated in the diagram below, and connect the DC milliammeter (500mA range) in its place. Set the transceiver to an SSB mode and with no microphone input, press the MOX button and adjust VR9001 for 250 mA. Replace the jumper after adjustment.



PA UNIT Alignment Points

ANTENNA TUNER UNIT

(1) Variable Capacitor Servos

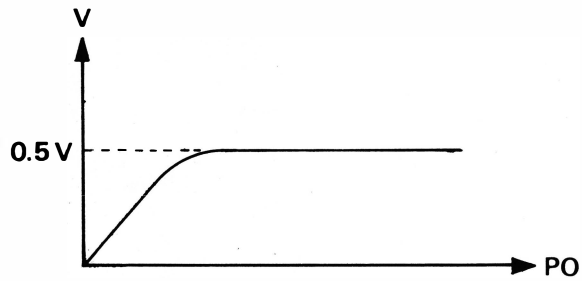
Preset VR5003 and VR5004 to the center of their ranges. Loosen the shaft-coupler setscrews of VC5001 and VC5002 so they can be adjusted by hand.

While receiving, press the TUNER and START buttons. After the motor stops, manually set VC5001 for minimum capacitance (minimally meshed) and VC5002 for maximum capacitance (fully meshed), then tighten the setscrews.

Press the START button again while receiving, and ensure that VC5001 and VC5002 both rotate throughout at least 180°. When motion stops, note whether both capacitors are fully meshed. If not, adjust VR5003 (for VC5002) or VR5004 (for VC5001) and repeat this step until both capacitors mesh fully when the tuner stops.

(2) Tuner Stop SWR Threshold

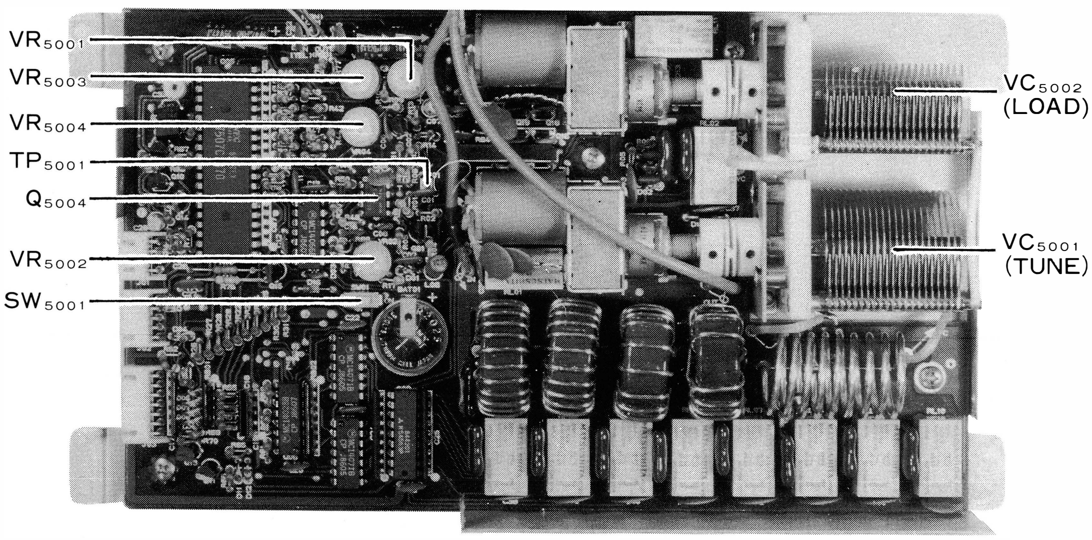
Tune to 14.2 MHz, CW mode, and set the TUNER switch OFF. Connect a 16.7-ohm dummy load (3 50-ohm loads in parallel) to the ANT jack, and connect the DC voltmeter to TP5001. Press the MOX button and rotate the DRIVE control gradually clockwise, noting the saturation level beyond which the voltage at TP5001 no longer increases (see diagram below). Adjust VR5001, if necessary, for a 0.5V saturation level.



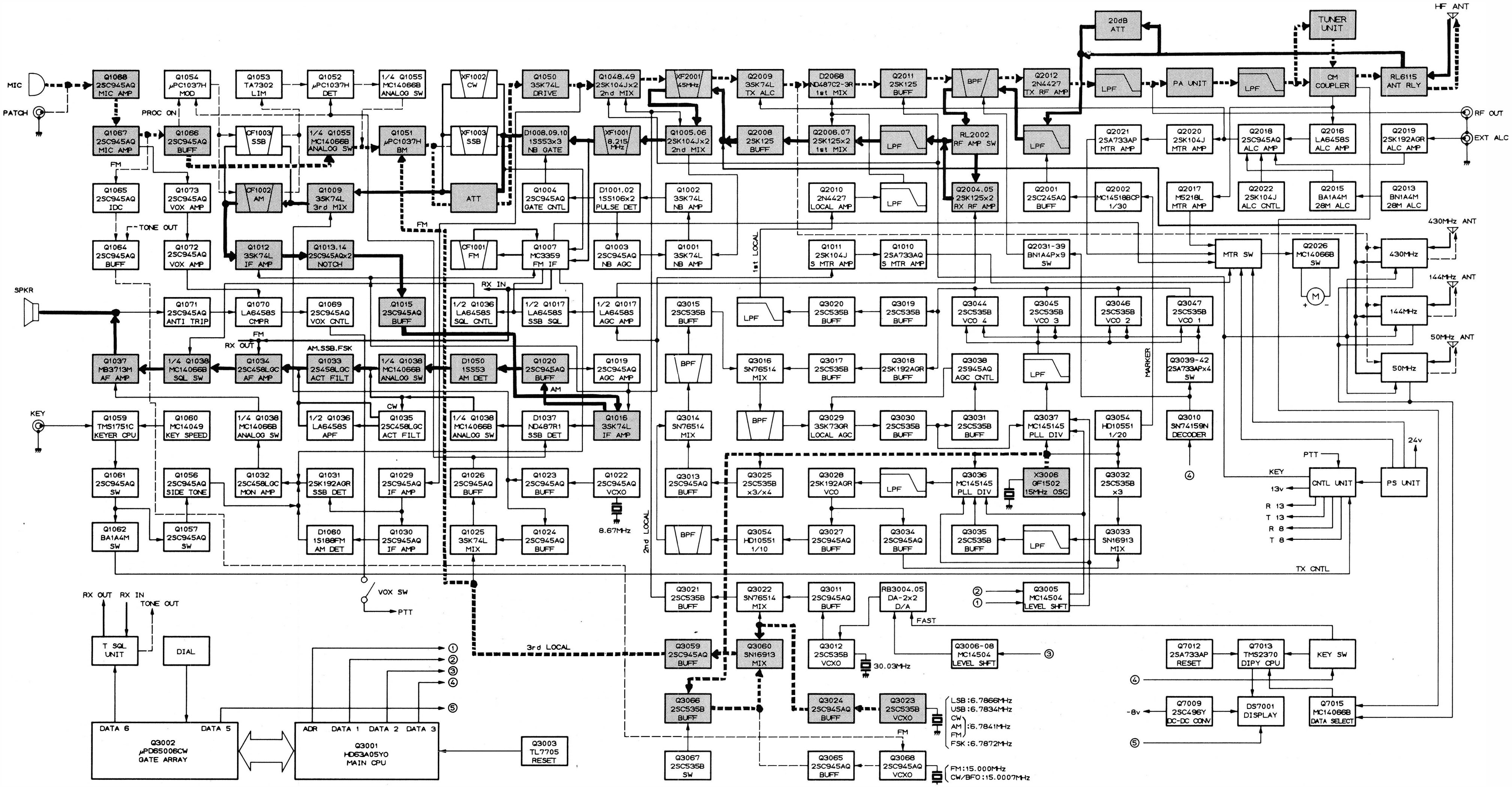
(3) Tuner Auto-Start SWR Threshold

With the transceiver set to 14.2 MHz, CW mode, and 16.7-ohm dummy load as in the previous step, set the DRIVE control fully clockwise, and connect the DC voltmeter to pin 7 of Q5004. Preset VR5002 fully counterclockwise, and then press the MOX button and rotate it slowly until the voltmeter drops to zero. Note the position of VR5002, and set it slightly counterclockwise from this point.

Now replace the 16.7-ohm dummy load with one 50-ohm load, press the MOX button and confirm that the tuner automatically starts and stops.



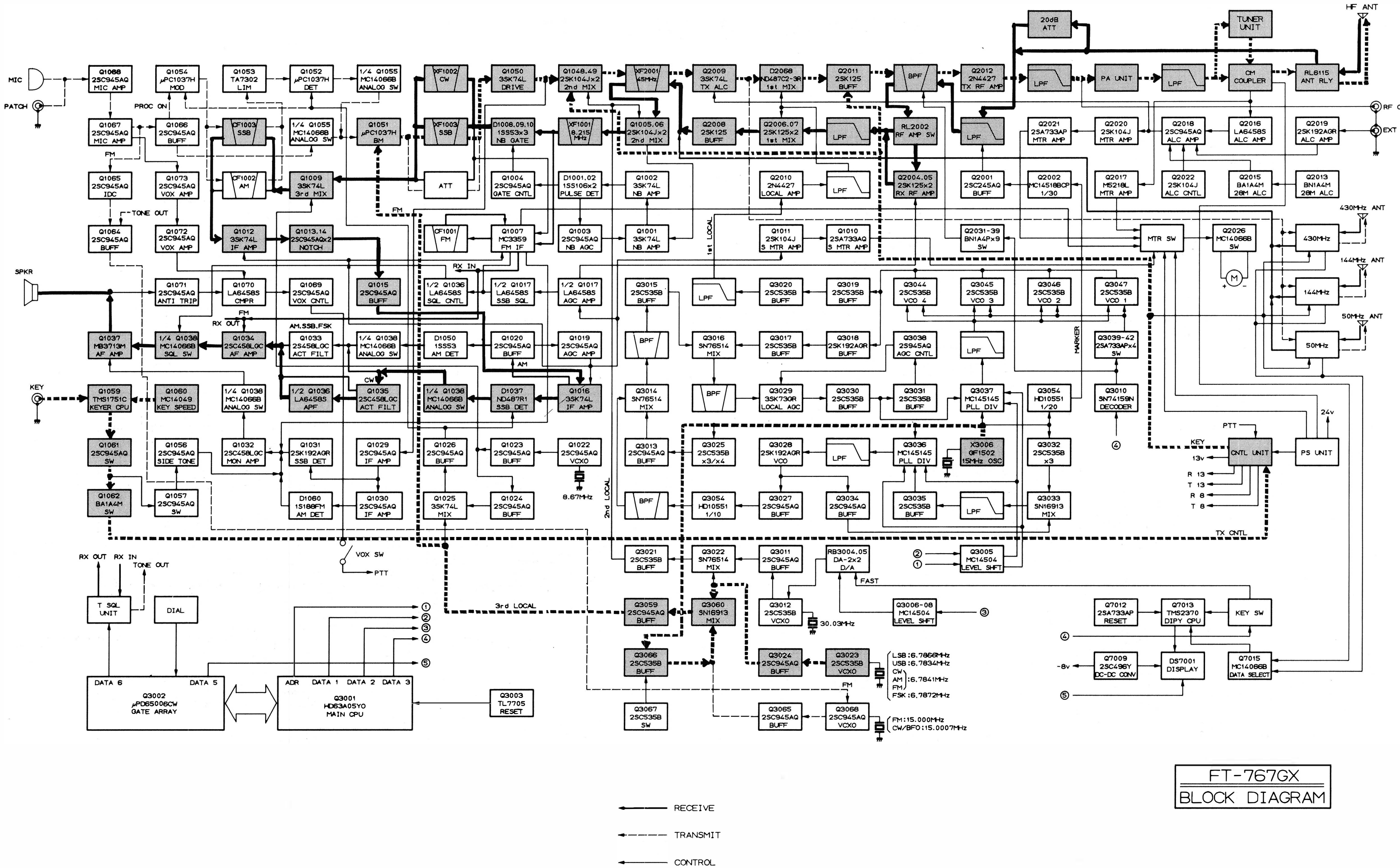
ANTENNA TUNER UNIT Alignment Points



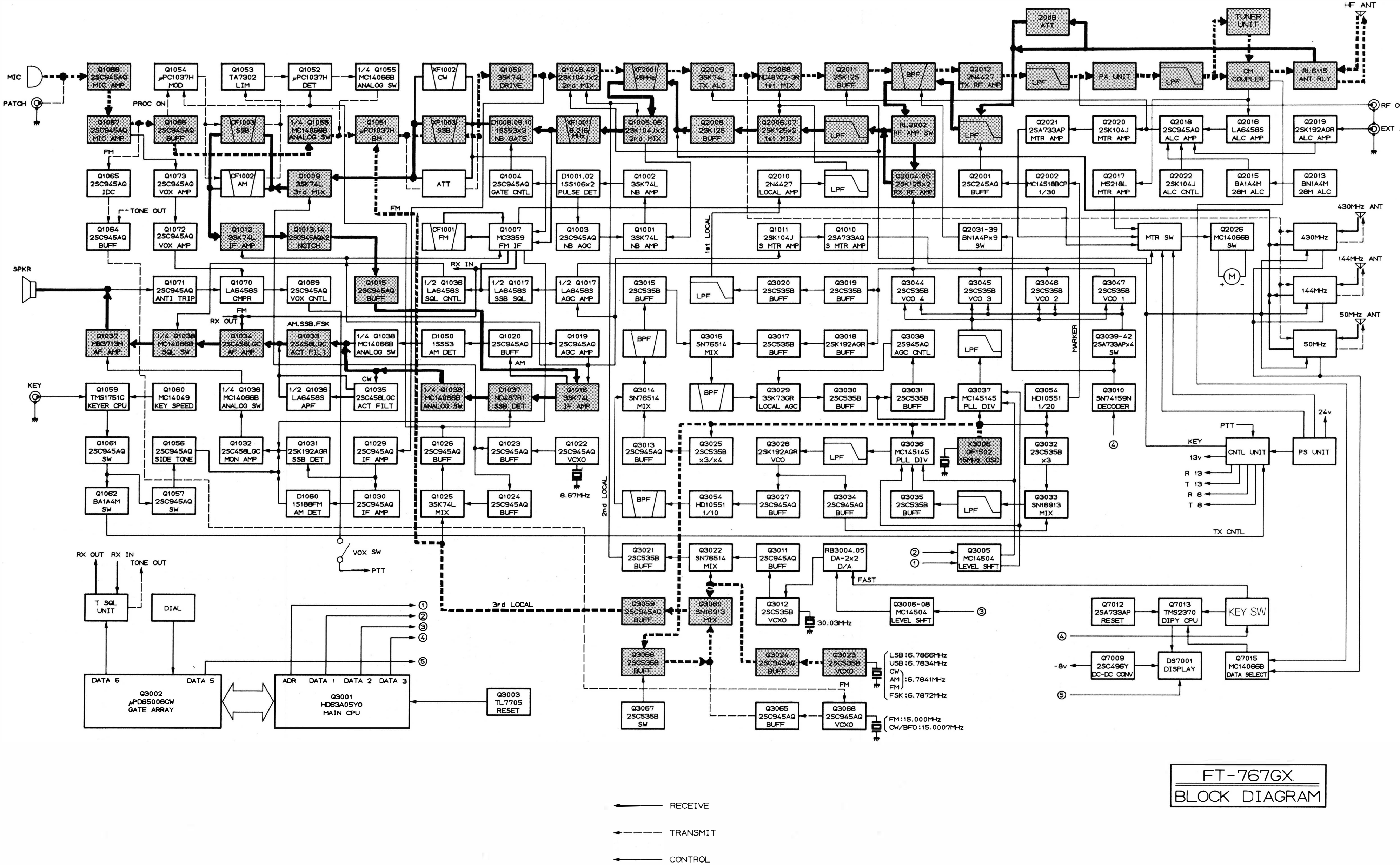
FT-767GX
BLOCK DIAGRAM

RECEIVE
TRANSMIT
CONTROL

SIGNAL TRACING (AM MODE)

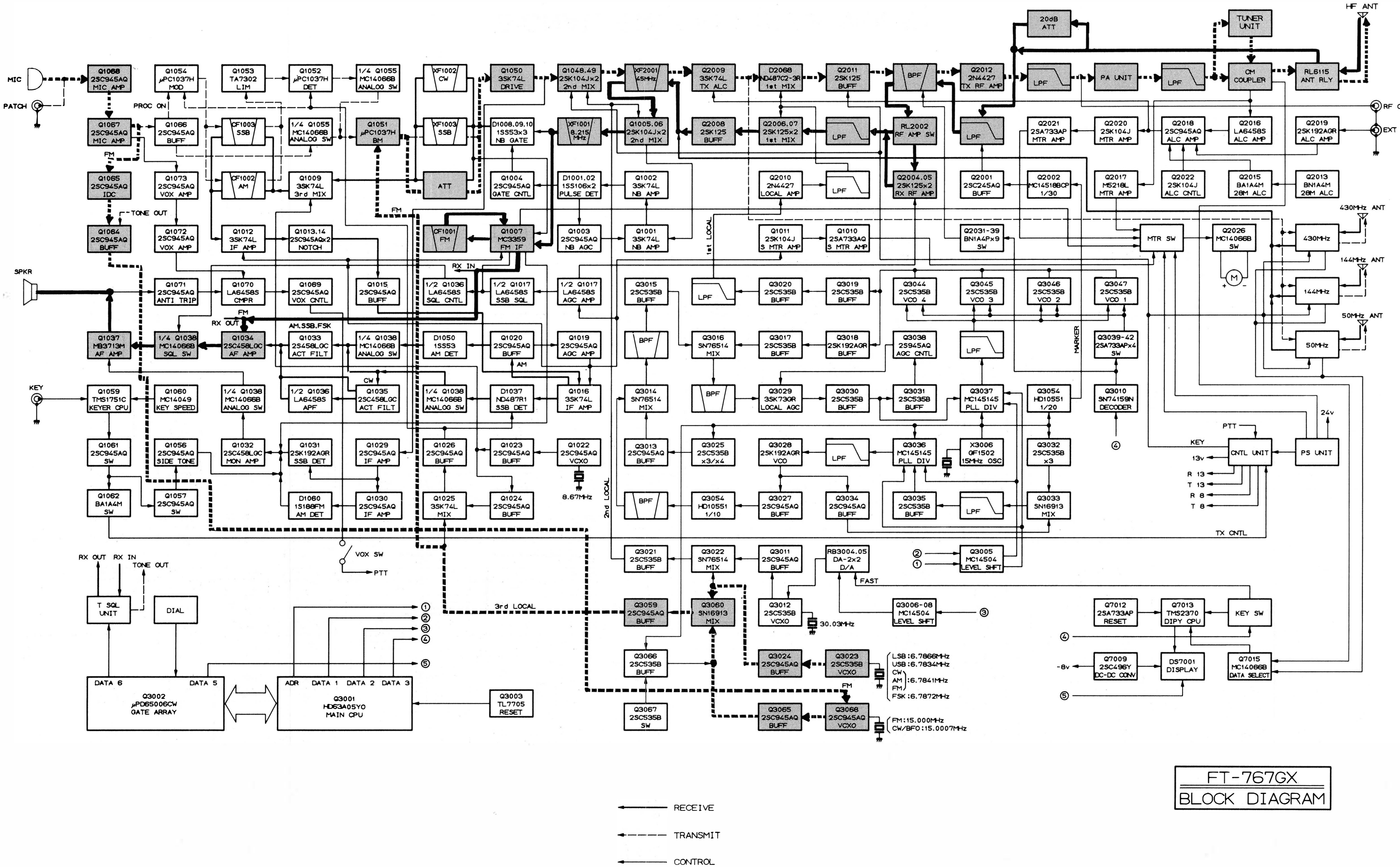


SIGNAL TRACING (CW MODE)

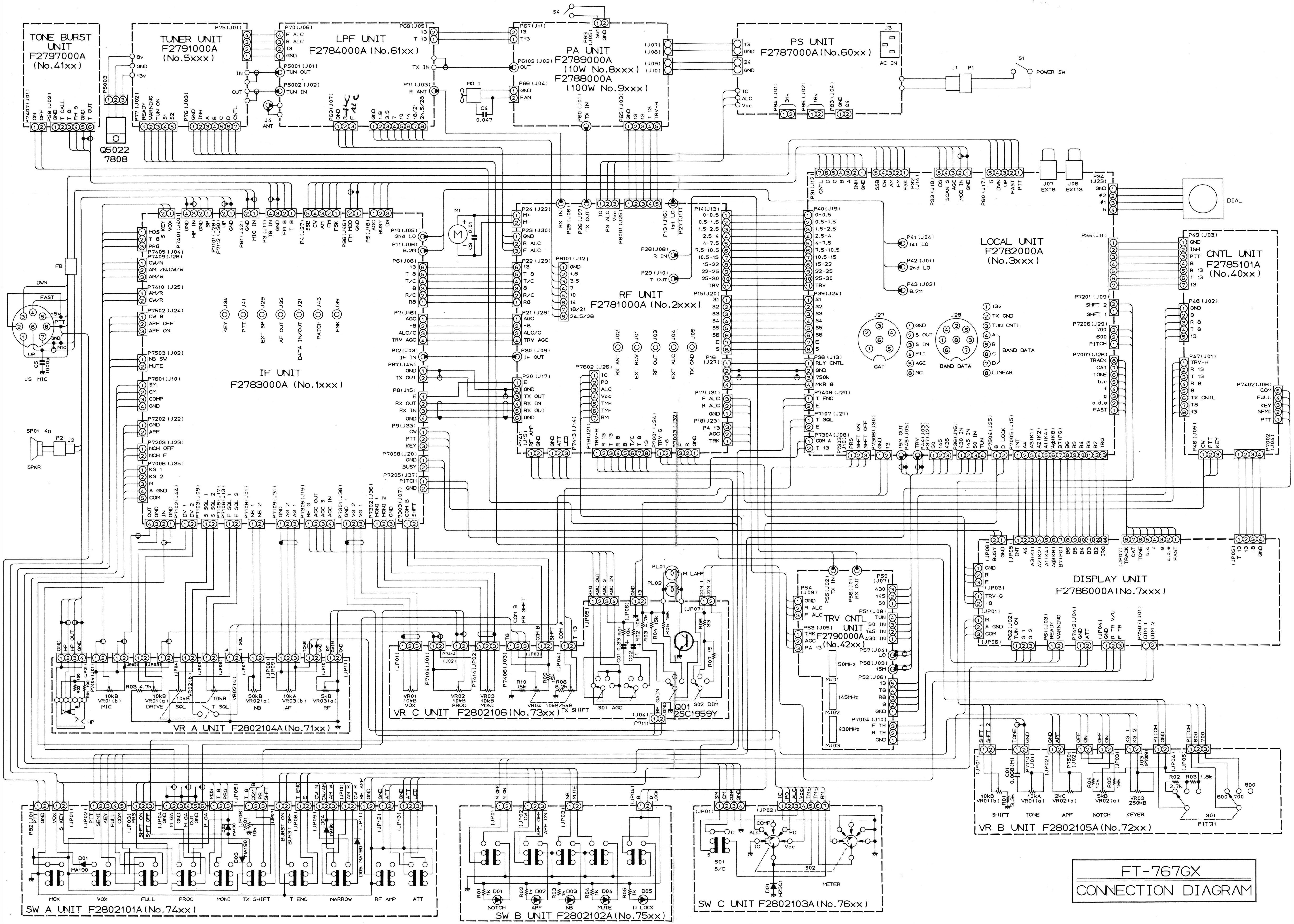


FT-767GX
BLOCK DIAGRAM

SIGNAL TRACING (SSB MODE)

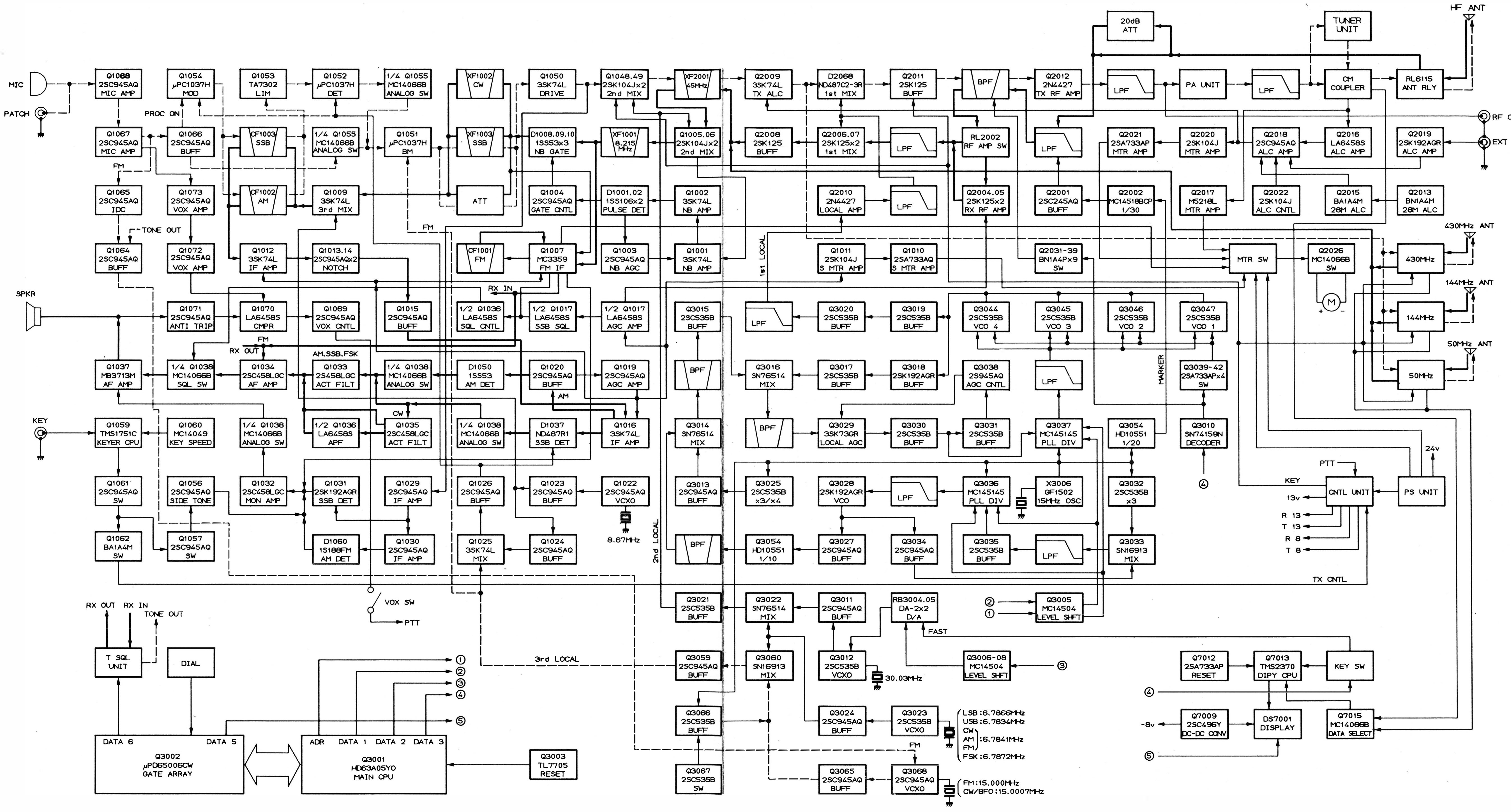


SIGNAL TRACING (FM MODE)



FT-767GX CONNECTION DIAGRAM

RESISTOR VALUES ARE IN Ω,1/4w; CAPACITOR VALUES ARE IN μF:
UNLESS OTHERWISE NOTED.
(M) CAPACITORS ARE POLYESTER FILM,50wv.



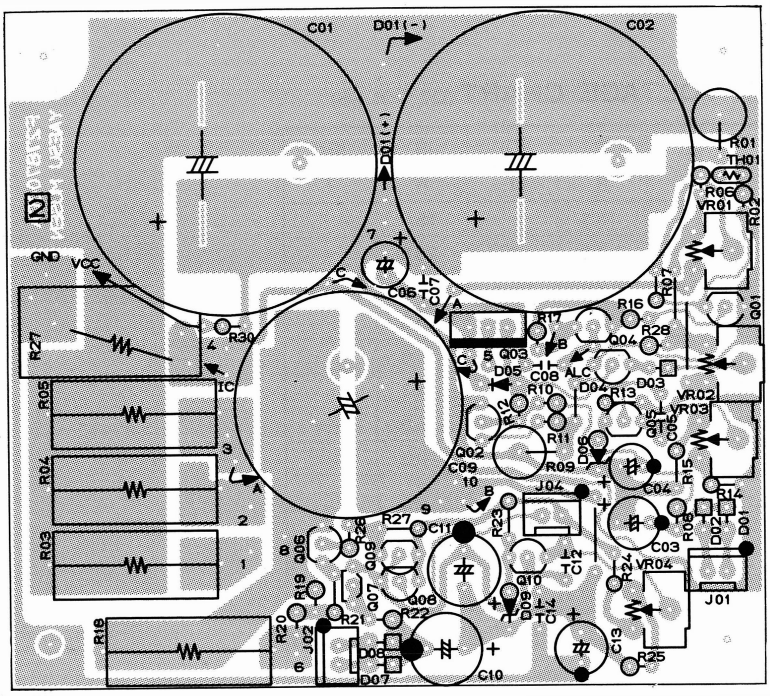
FT-767GX
BLOCK DIAGRAM

RECEIVE

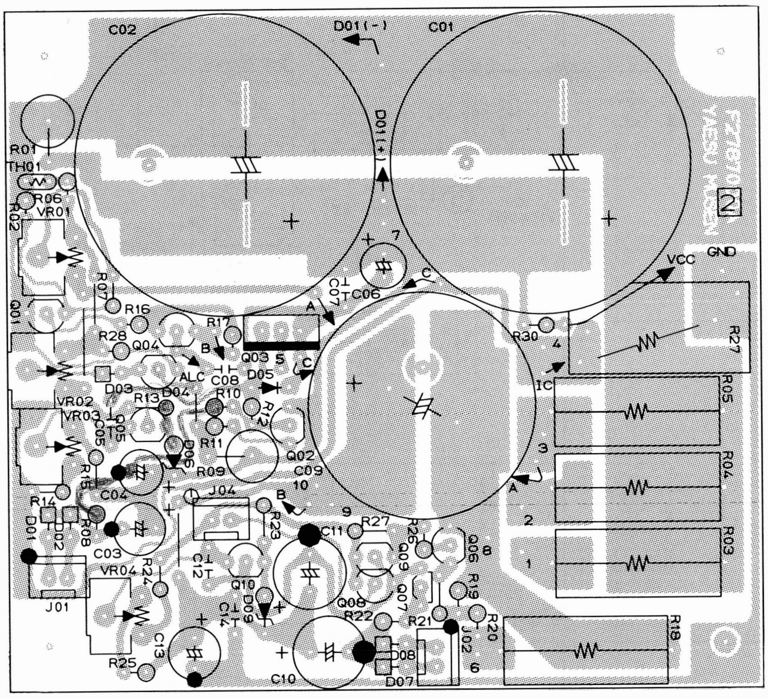
TRANSMIT

CONTROL

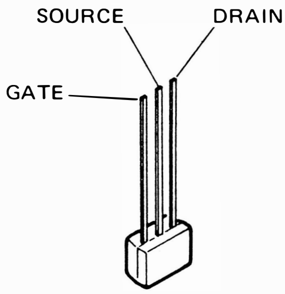
PS UNIT PARTS LAYOUT



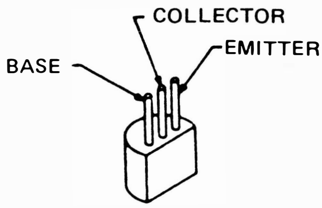
(Viewed from Component side)



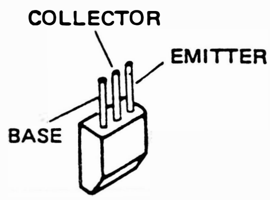
(Viewed from Solder side)



2SK192A-GR (Q6007)



2SA684R (Q6005)
2SA733AP
(Q6002,6004,6009)
2SA950Y (Q6008)
2SA1012Y (Q6003)
2SA1051Y (Q6010)
2SC458B (Q6001,6006)

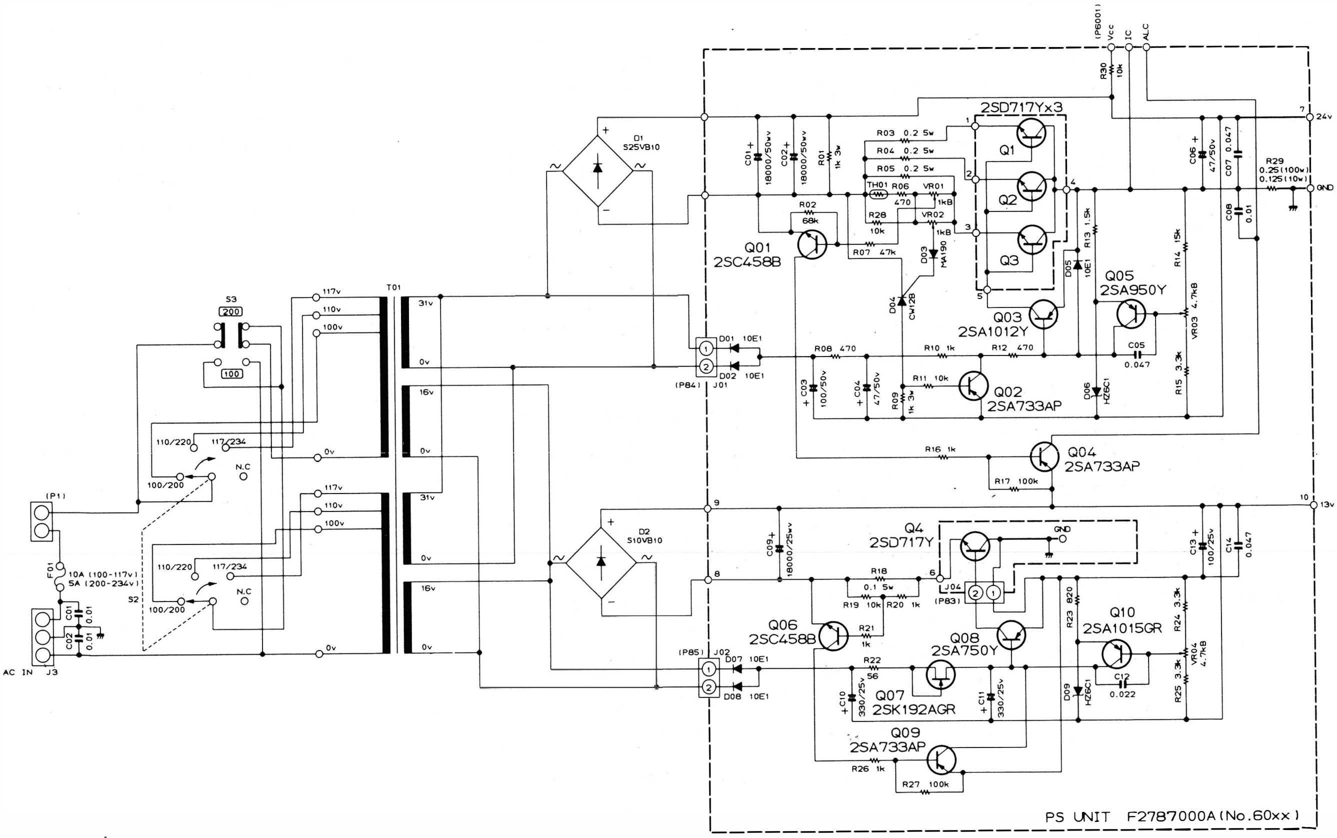


2SD717Y (Q6011-6014)

PS UNIT VOLTAGE CHART (DC VOLTS)

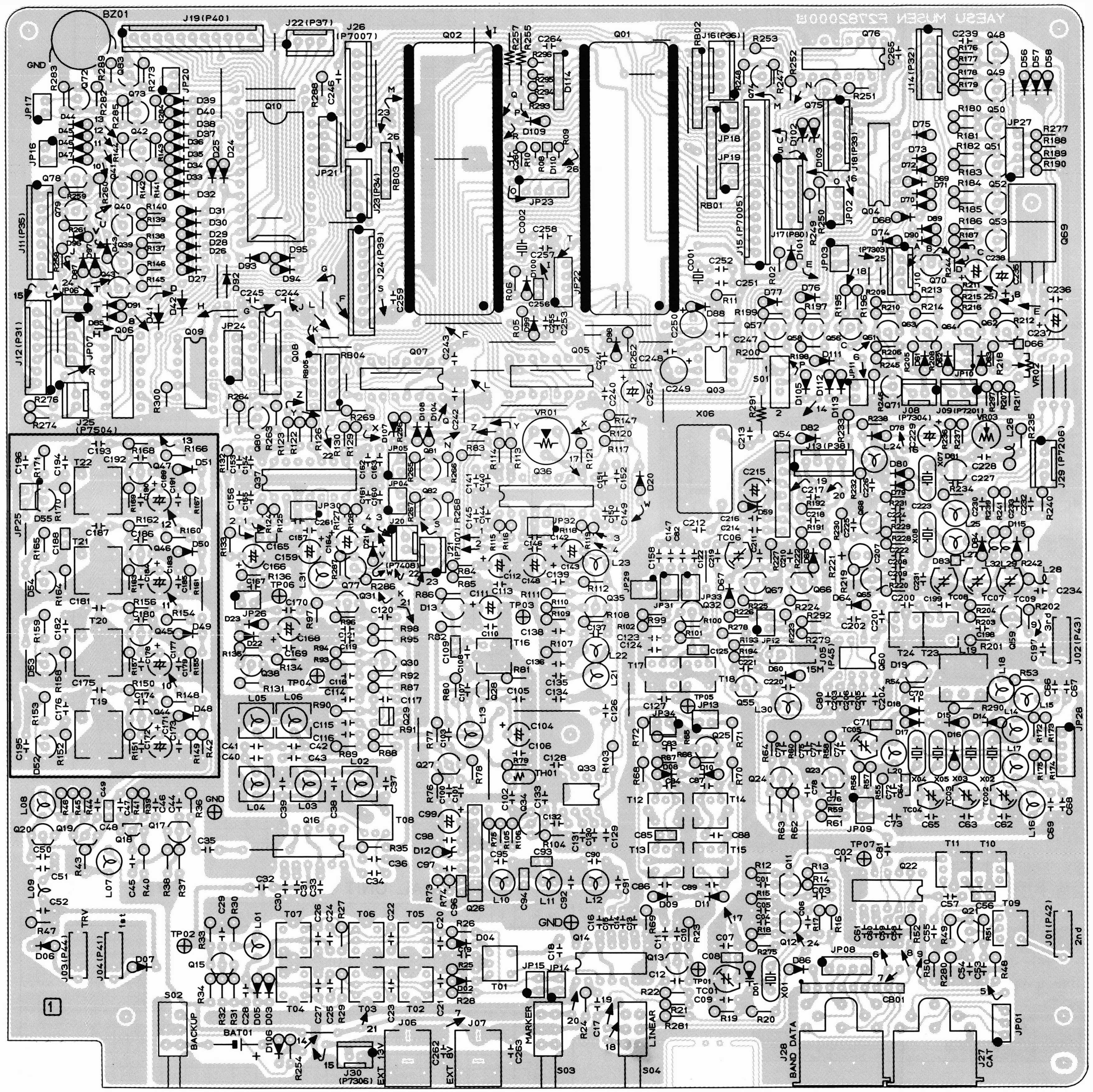
	E	(S)	C	(D)	B	(G1)
	R	T	R	T	R	T
Q6001	-18.4	——	13.3	——	-18.3	——
Q6002	23.5	——	- 4.8	——	23.5	——
Q6003	0	——	-17.0	——	- 0.5	——
Q6004	13.4	——	0	——	13.3	——
Q6005	17.1	——	- 0.5	——	16.6	——
Q6006	- 6.5	——	0	——	- 6.3	——
Q6007	- 6.6	——	- 0.6	——	- 6.6	——
Q6008	0	——	- 5.7	——	- 0.6	——
Q6009	0	——	- 0.6	——	0	——
Q6010	7.2	——	- 0.6	——	6.6	——
Q1	-17.7	——	0	——	-17.0	——
Q2	-17.7	——	0	——	-17.0	——
Q3	-17.7	——	0	——	-17.0	——
Q4	- 6.3	——	0	——	- 5.7	——

PS UNIT CIRCUIT DIAGRAM

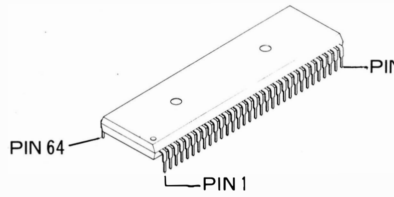


RESISTOR VALUES ARE IN Ω.1/4w: CAPACITOR VALUES ARE IN μF:
UNLESS OTHERWISE NOTED.

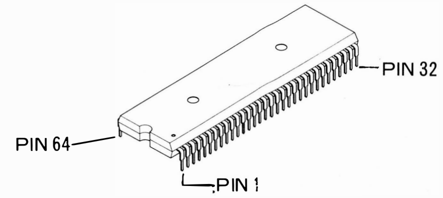
LOCAL UNIT PARTS LAYOUT



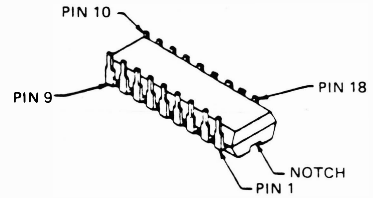
(Viewed from Component side)



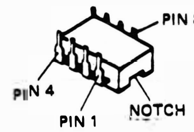
HD63A05Y0A82P (Q3001)



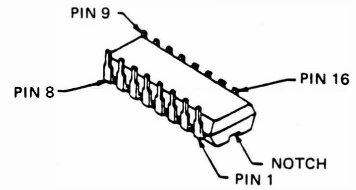
μ PD65006CW-034 (Q3002)



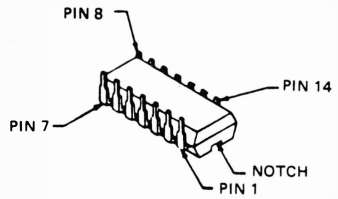
MC145145P (Q3036,3037)



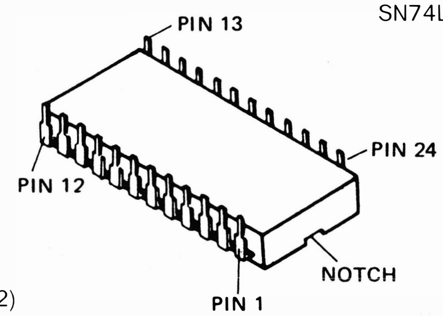
SN16913P (Q3033,3060)
TL7705CPB (Q3003)



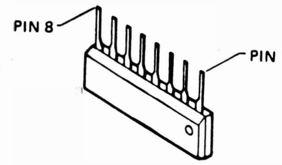
MC14049UBCP (Q3076)
MC14050BCP (Q3006)
MC14504BCP (Q3005,3007,3008)
SN74LS145N (Q3004)



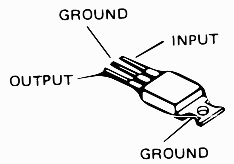
SN74LS26N (Q3009)
SN76514N (Q3014,3015,3022)



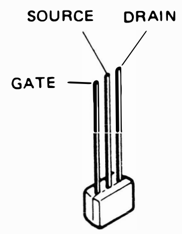
SN74159N (Q3010)



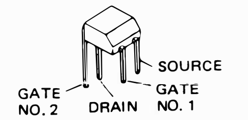
HD10551P (Q3026,3054)



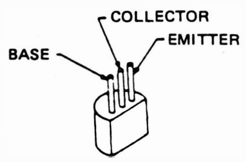
μ PC7805H (Q3069)



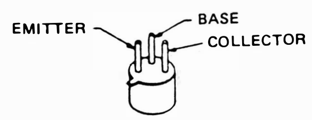
2SK192AGR (Q3018,3028)



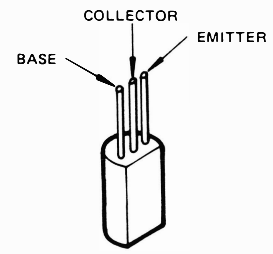
3SK73GR (Q3029)



2SA733AP
(Q3039-3043,3048-3053
3056-3058,3061-3064
3079,3080)
2SC945AQ
(Q3011,3013,3024,3027
3034,3038,3055,3059
3065-3068,3071-3075
3077,3078,3081-3083)

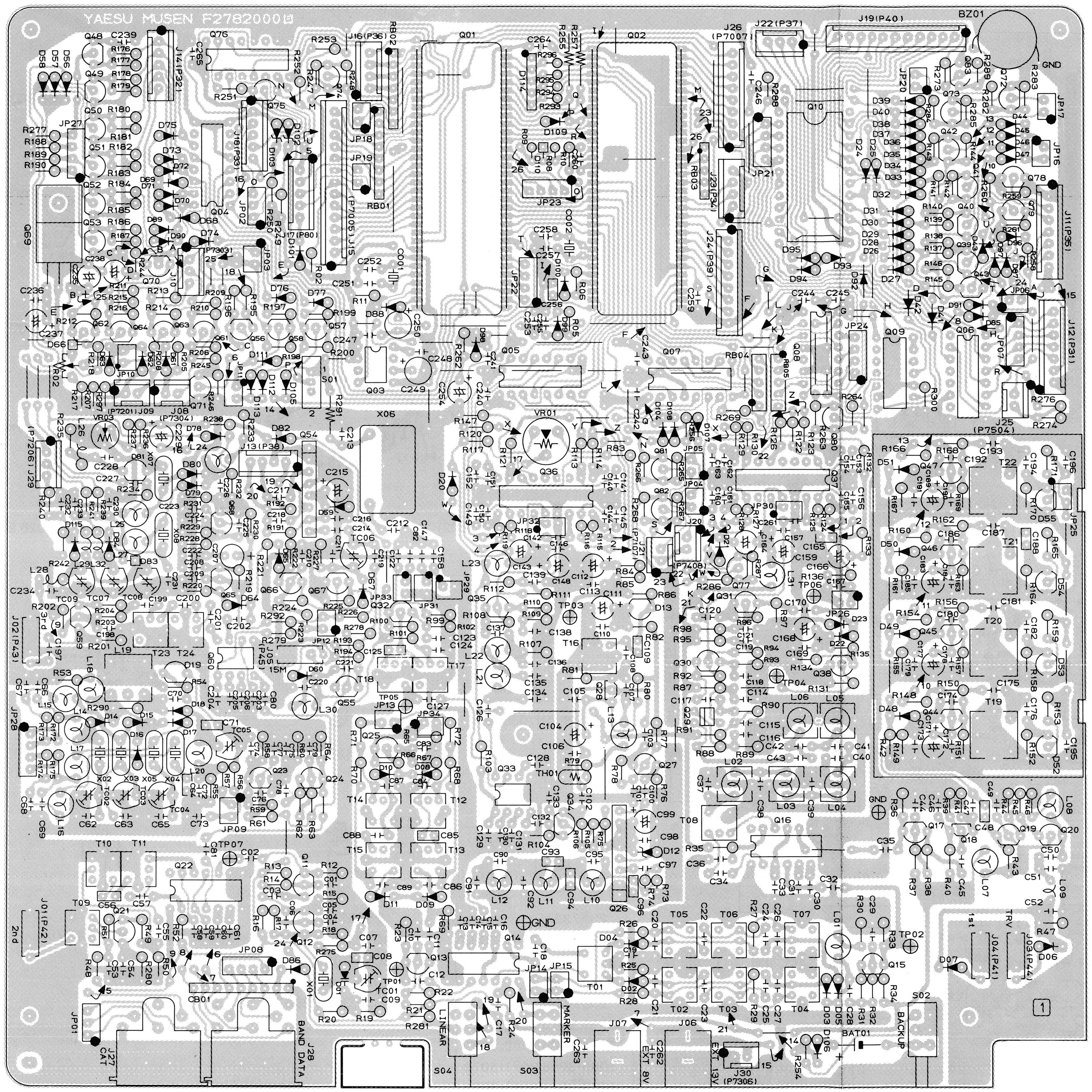


2SC535B
(Q3012,3015,3017
3019-3021,3023
3025,3030-3032
3035,3044-3047)



2SD667C (Q3070)

LOCAL UNIT PARTS LAYOUT



(Viewed from Solder side)

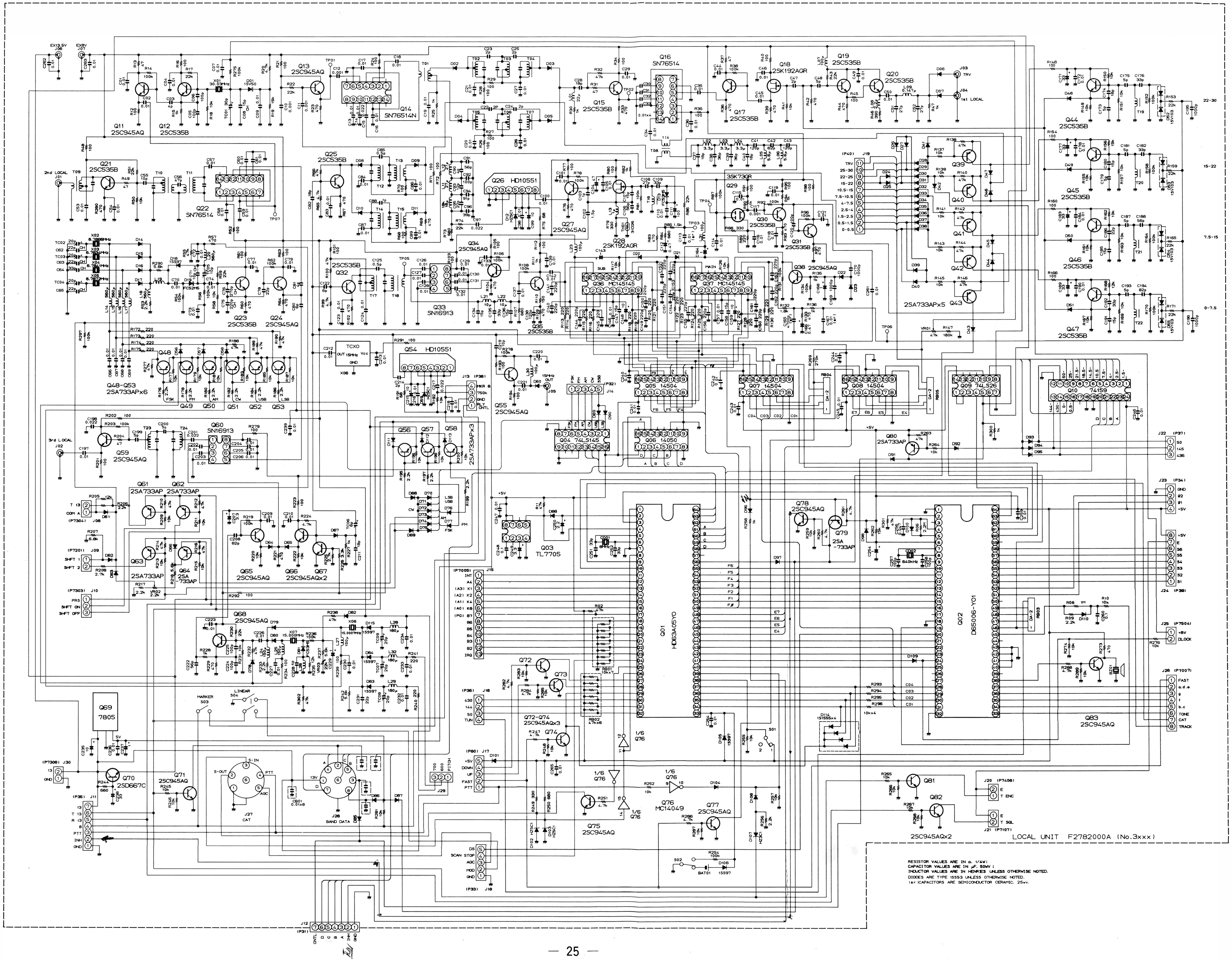
LOCAL UNIT VOLTAGE CHART (DC VOLTS)

	E (S)		C (D)		B (G₁)		(G₂)		REMARKS
	R	T	R	T	R	T	R	T	
Q3011	1.4	1.4	7.4	7.4	2.1	2.1			
Q3012	1.8	1.8	7.8	7.8	2.3	2.3			
Q3013	5.2	5.2	6.9	6.9	5.9	5.9			
Q3015	3.2	3.2	7.3	7.3	4.0	4.0			
Q3017	2.2	2.2	7.8	7.8	3.0	3.0			
Q3018	1.0	1.0	7.8	7.8	0	0			
Q3019	4.3	4.3	8.0	8.0	5.2	5.2			
Q3020	3.6	3.6	8.0	8.0	4.3	4.3			
Q3021	1.4	1.4	7.7	7.7	2.2	2.2			
Q3023	1.5	1.5	7.7	7.7	2.2	2.2			
Q3024	3.4	3.4	7.3	7.3	4.0	4.0			
Q3025	0.4	0.4	8.5	8.5	0.7	0.7			
Q3027	3.6	3.6	7.3	7.3	4.2	4.2			
Q3028	7.6	7.6	0.8	0.8	0	0			
Q3029	0.6	0.6	4.6	4.6	0.7	0.7	0.7	0.7	
Q3030	1.3	1.3	5.1	5.1	2.0	2.0			
Q3031	2.2	2.2	7.6	7.6	3.0	3.0			
Q3032	0.3	0.3	8.0	8.0	0.7	0.7			
Q3034	4.2	4.2	7.3	7.3	3.6	3.6			
Q3035	1.7	1.7	5.1	5.1	2.4	2.4			
Q3038	0	0	0.7	0.7	0.5	0.5			
Q3039	12.0	12.0	11.7	11.7	11.3	11.3			28MHz
Q3040	12.0	12.0	11.7	11.7	11.3	11.3			21MHz
Q3041	12.0	12.0	11.7	11.7	11.3	11.3			14MHz
Q3042	12.0	12.0	11.7	11.7	11.3	11.3			7MHz
Q3043	12.0	12.0	11.7	11.7	11.3	11.3			1MHz
Q3044	4.0	4.0	10.8	10.8	4.4	4.4			28MHz
Q3045	3.3	3.3	10.8	10.8	3.8	3.8			21MHz
Q3046	4.2	4.2	10.8	10.8	4.5	4.5			14MHz
Q3047	4.1	4.1	10.8	10.8	4.4	4.4			7MHz
Q3048	12.0	12.0	12.0	12.0	11.4	11.4			MODE FSK
Q3049	12.0	12.0	12.0	12.0	11.4	11.4			MODE FM
Q3050	12.0	12.0	12.0	12.0	11.4	11.4			MODE AM
Q3051	12.0	12.0	12.0	12.0	11.4	11.4			MODE CW
Q3052	12.0	12.0	12.0	12.0	11.4	11.4			MODE USB
Q3053	12.0	12.0	12.0	12.0	11.4	11.4			MODE LSB
Q3055	0.4	0.4	2.7	2.7	1.0	1.0			TRV
Q3056	13.0	0.4	12.1	12.1	11.3	11.3			
Q3057	0	13.0	0	12.0	0	12.6			
Q3058	13.1	0.2	13.0	0	12.7	0			MODE CW
Q3059	1.3	1.3	6.8	6.8	1.9	1.9			
Q3061	0	13.0	0	13.0	0	12.3			TX SHIFT ON
Q3062	0	13.0	0	13.0	0	12.3			
Q3063	13.0	0	13.0	0	12.4	1.5			
Q3064	12.1	12.1	12.1	12.1	11.5	11.5			MODE FM
Q3065	5.7	0	10.5	0	6.3	0			MODE CW
Q3066	2.0	2.0	11.6	11.6	2.6	2.6			
Q3067	0	0	0	2.6	0.7	0			MODE CW
Q3068	2.9	0	10.5	0	3.1	0			MODE CW
Q3069	IN 13.0	13.0	GND 0	0	OUT 5.0	5.0			
Q3070	12.1	12.1	13.1	13.1	12.1	12.1			
Q3071	0	0	0	0	0	0.7			
Q3072	0	0	0	0	0.6	0.6			MIC DWN ON
Q3073	0	0	0	0	0.6	0.6			MIC UP ON
Q3074	0	0	0	0	0.6	0.6			MIC FASTON
Q3075	0	0	5.0	5.0	0	0			
Q3077	0	0	0	0	0.6	0.6			MIC FASTON
Q3078	0	0	0	7.6	0	0			
Q3079	5.0	5.0	5.0	5.0	0	0			
Q3080	5.0	5.0	5.0	5.0	4.3	4.3			TRV
Q3081	0	0	4.5	0	0	0.5			TONE ENC ON
Q3082	0	0	0	4.5	0.5	0			TONE SQL ON
Q3083	0	0	0	0	0	0			

LOCAL UNIT IC VOLTAGE CHART (DC VOLTS)

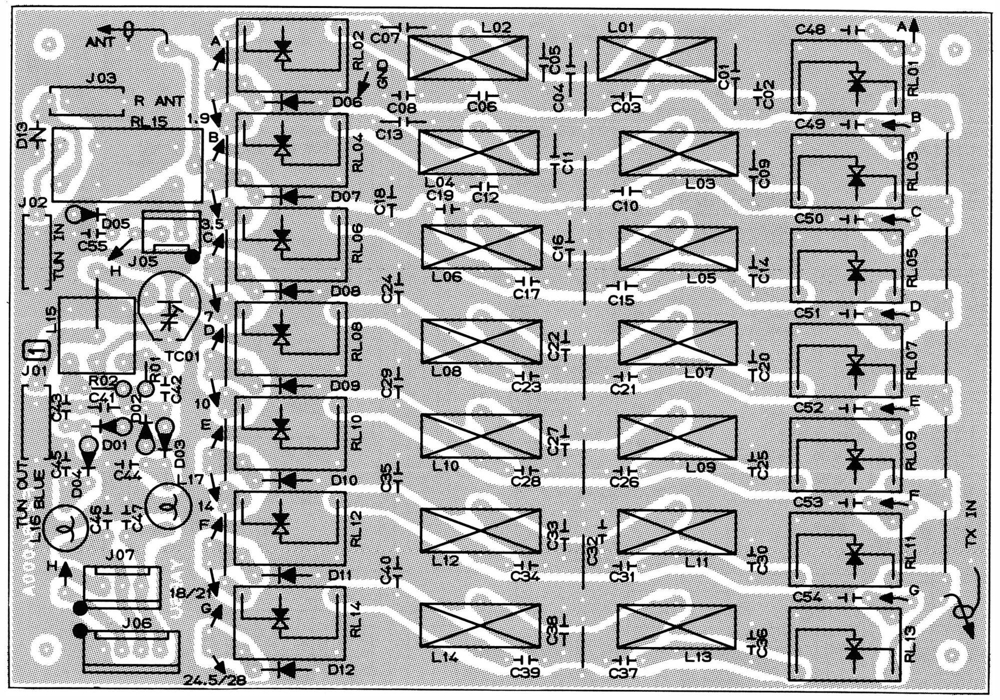
PIN No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	REMARKS
Q3003	—	—	—	—	—	—	5.0	5.0											
Q3004	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.0			
Q3005	5.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.0			
Q3006	5.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Q3007	5.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.0			
Q3008	5.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.0			
Q3009	—	—	—	—	—	—	—	—	—	—	—	—	—	5.0	—				
Q3014	—	8.0	—	—	—	—	—	—	—	—	—	—	—	—	—				
Q3016	—	8.0	—	—	—	—	—	—	—	—	—	—	—	—	—				
Q3022	—	8.0	—	—	—	—	—	—	—	—	—	—	—	—	—				
Q3026	—	—	—	—	5.0	—	—	—											
Q3033	—	—	—	—	—	—	—	8.0											
Q3036	—	—	—	—	8.0	—	—	—	—	—	—	—	—	—	—	—	—	—	
Q3037	—	—	—	—	8.0	—	—	—	—	—	—	—	—	—	—	—	—	—	
Q3054	—	—	—	—	5.0	—	—	—											
Q3060	—	—	—	—	—	—	—	8.0											
Q3076	5.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			

LOCAL UNIT CIRCUIT DIAGRAM

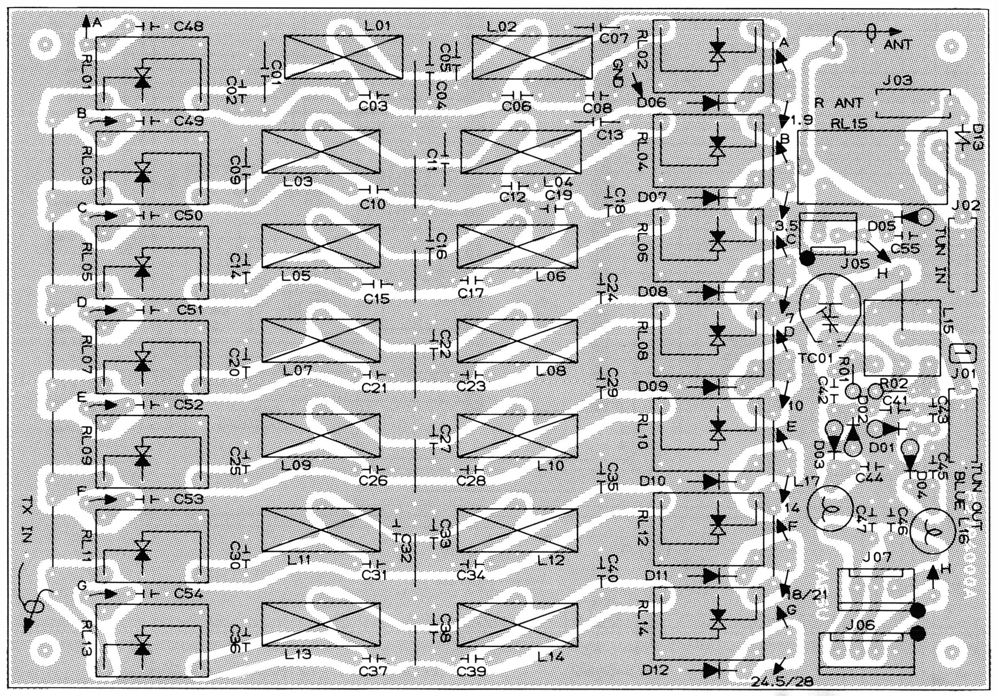


RESISTOR VALUES ARE IN Ω. 1/4W:
CAPACITOR VALUES ARE IN μF. 50WV :
INDUCTOR VALUES ARE IN HENRIES UNLESS OTHERWISE NOTED.
DIODES ARE TYPE 1SS53 UNLESS OTHERWISE NOTED.
(sr)CAPACITORS ARE SEMICONDUCTOR CERAMIC. 25wv.

LPF UNIT PARTS LAYOUT

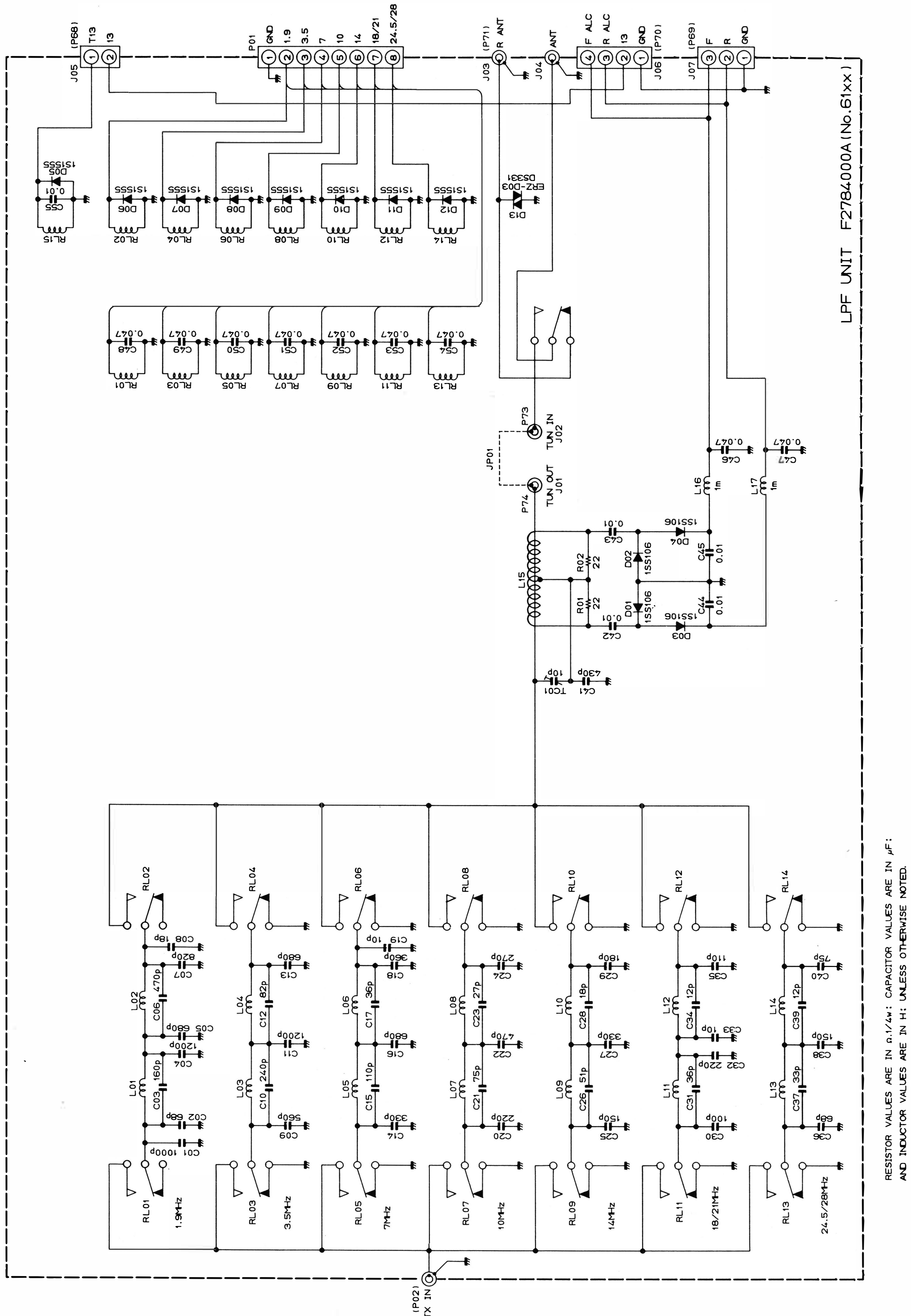


(Viewed from Component side)

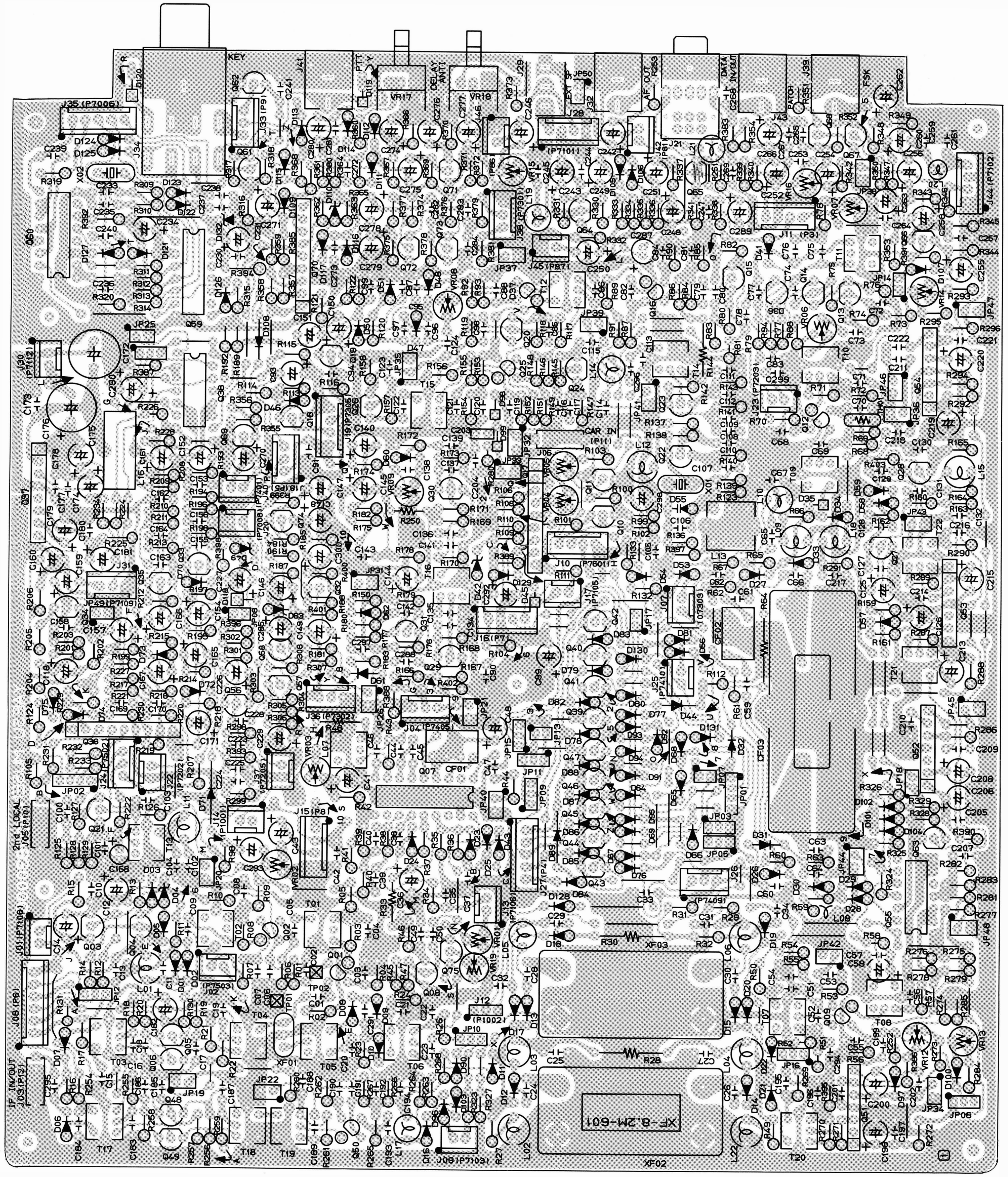


(Viewed from Solder side)

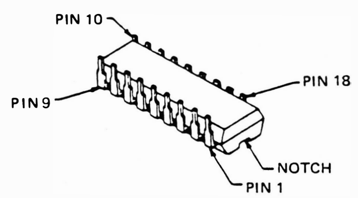
LPF UNIT CIRCUIT DIAGRAM



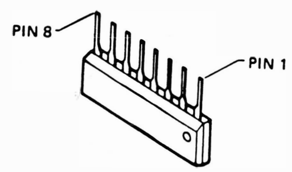
IF UNIT PARTS LAYOUT



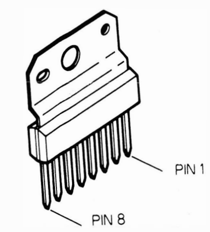
(Viewed from Component side)



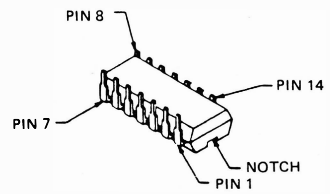
MC3359P (Q1007)



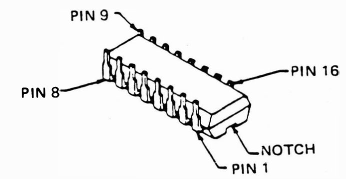
LA6458S (Q1017,1036,1070)



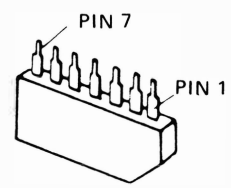
MB3713M-G (Q1037)



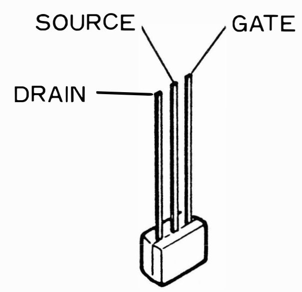
MC14066BCP (Q1038,1055)



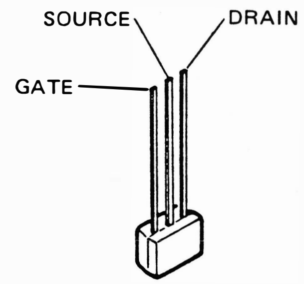
MC14049UBCP (Q1060)
TMS1751C (Q1059)



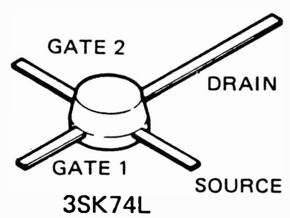
μPC1037H (Q1051,1052,1054)
TA7302P (Q1053)



2SK104J
(Q1005,1006,1018
1048,1049,1076
1077)

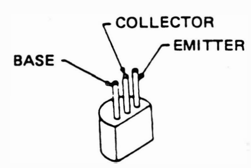


2SK192AGR (Q1011,1031)
2SK241GR (Q1008)

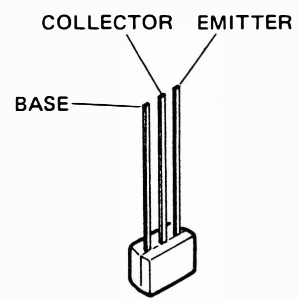


3SK74L

(Q1001,1002,1009
1012,1016,1025
1050)

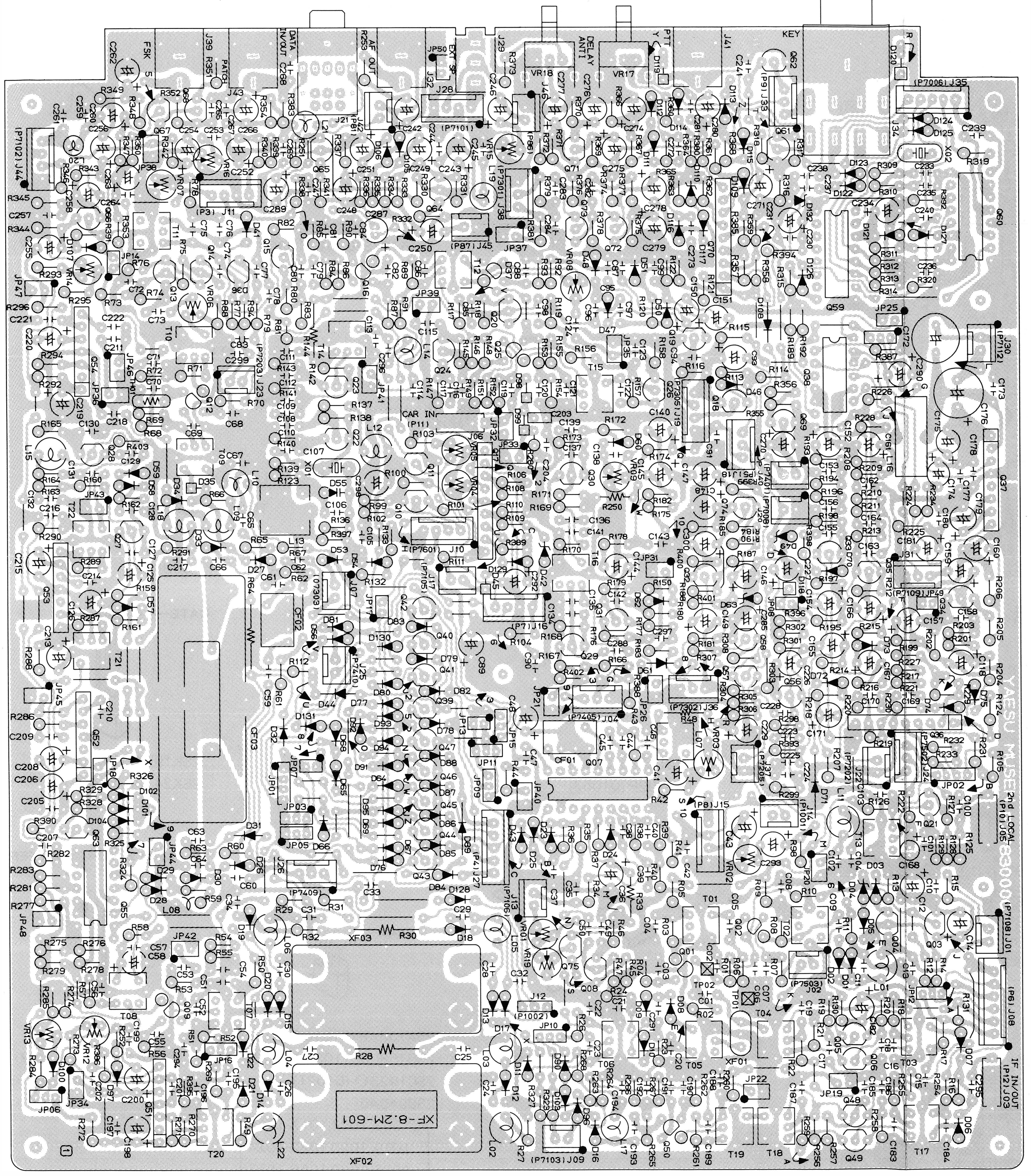


2SA733AP (Q1010,1061,1063)
2SC458LGC (1033-1035,1074)
2SC1923O (Q1021)
2SC945AQ
(Q1003,1004,1013-1015
1019,1020,1022-1024
1026-1030,1056-1058
1064-1069,1071-1073)



BN1A4P (Q1039-1047)
BA1A4M (Q1062,1075)

IF UNIT PARTS LAYOUT



(Viewed from Solder side)

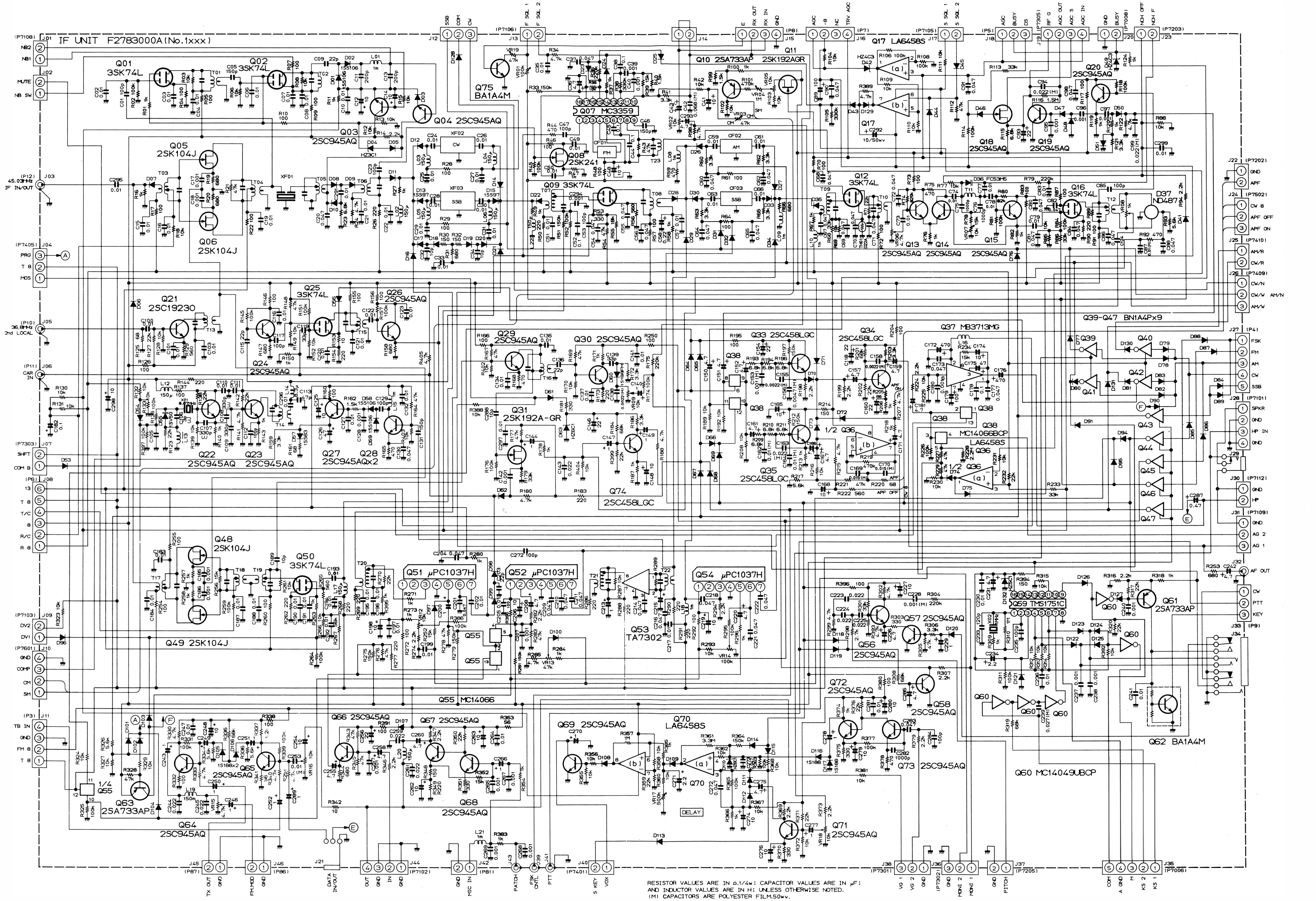
IF UNIT VOLTAGE CHART (DC VOLTS)

	E	(S)	C	(D)	B	(G₁)	(G₂)		REMARKS
	R	T	R	T	R	T	R	T	
Q1001	0.4	0.4	7.5	7.5	0	0	4.0	4.0	NB ON
Q1002	0.4	0.4	7.5	7.5	0	0	4.0	4.0	NB ON
Q1003	- 7.2	- 7.2	4.0	4.0	- 7.2	- 7.2			NB ON
Q1004	- 6.8	- 6.8	- 2.2	- 2.2	- 7.2	- 7.2			NB ON
Q1005	1.5	0	13.0	13.2	0.4	- 3.8			
Q1006	1.5	0	13.0	13.2	0.4	- 3.8			
Q1008	1.0	1.0	7.8	7.8	0	0			MODE FM
Q1009	2.2	0	7.7	8.0	2.0	- 3.0	2.2	2.2	
Q1010	4.8	4.8	0	0	4.2	4.2			
Q1011	5.2	5.2	8.0	8.0	3.0	3.0			
Q1012	1.7	1.7	6.7	6.7	1.8	1.8	3.0	3.0	
Q1013	2.5	1.8	7.4	7.4	3.0	2.4			
Q1014	2.5	1.8	7.4	7.8	3.0	0			
Q1015	3.0	0	7.7	- 0.4	3.7	- 0.2			
Q1016	1.9	1.9	7.1	7.1	1.8	1.8	3.0	3.0	
Q1018	3.4	3.4	3.4	3.4	0	0			
Q1019	0	0	3.0	3.0	0	0			
Q1020	5.6	5.6	7.5	7.5	4.9	4.9			
Q1021	1.5	1.5	7.7	7.7	2.3	2.3			
Q1022	1.9	1.9	7.8	7.8	2.4	2.4			
Q1023	0.8	0.8	7.8	7.8	1.3	1.3			
Q1024	3.8	3.8	7.4	7.4	4.5	4.5			
Q1025	1.0	1.0	7.6	7.6	0.7	0.7	1.4	1.4	
Q1026	4.0	4.0	7.4	7.4	4.7	4.7			
Q1027	0	0	0	7.1	0	0			
Q1028	0	0.5	0	7.0	0	1.2			
Q1029	0	0.7	0	7.8	0	1.3			
Q1030	0.6	0.6	5.2	5.2	1.2	1.2			MODE AM
Q1031	2.6	2.6	3.5	3.5	0	0			
Q1033	3.8	3.8	6.1	6.1	4.5	4.5			
Q1034	1.2	1.2	4.3	4.3	1.9	1.9			
Q1035	4.3	4.3	7.3	7.3	4.9	4.9			
Q1039	0	8.0	- 0.5	7.9	0	1.0			MODE CW
Q1040	8.0	- 0.4	8.0	- 0.6	1.0	- 0.4			MODE CW
Q1041	0	8.0	- 0.6	8.0	0	0.9			MODE AM
Q1042	8.0	- 0.4	7.9	- 0.4	0.9	- 0.4			MODE AM
Q1043	8.0	8.0	8.0	8.0	1.6	1.6			MODE SSB
Q1044	8.0	8.0	8.0	8.0	1.0	1.0			MODE CW
Q1045	8.0	8.0	8.0	8.0	1.0	1.0			MODE AM
Q1046	8.0	8.0	8.0	8.0	0.9	0.9			MODE FM
Q1047	8.0	8.0	8.0	8.0	0.9	0.9			MODE FSK
Q1048	13.3	13.0	0	1.3	- 4.6	0			
Q1049	13.3	13.0	0	1.3	- 4.6	0			
Q1050	0.9	0.9	9.4	9.4	2.0	2.0	4.0	4.0	
Q1056	0.3	0.3	3.8	3.8	0.9	0.9			CW SEMI KEY DWN
Q1057	0	0	0	0	0.6	0.6			CW SEMI KEY DWN
Q1058	0	0	0	0	0.6	0.6			MODE CW
Q1061	1.1	1.1	1.8	1.8	1.8	1.8			CW SEMI KEY DWN
Q1062	0	0	0	0	1.8	1.8			CW SEMI KEY DWN
Q1063	0	8.0	0	7.8	0	7.2			PROC ON
Q1064	0.1	0.1	1.4	1.4	0.8	0.8			MODE FM
Q1065	0.2	0.2	2.7	2.7	0.9	0.9			MODE FM
Q1066	0	2.4	0	6.8	0	3.1			
Q1067	0.7	0.7	3.7	3.7	1.4	1.4			
Q1068	0.1	0.1	1.4	1.4	0.7	0.7			
Q1069	0	0	7.4	0.1	0	0			VOX ON
Q1071	0.6	0.6	3.5	3.5	1.2	1.2			
Q1072	0.8	0.8	4.9	4.9	1.5	1.5			
Q1073	0.1	0.1	1.5	1.5	0.7	0.7			
Q1074	0	0.8	0	3.5	0	1.4			MONI ON
Q1075	0	0	0	1.3	2.1	0			TONE SQL ON (FTS-8)
Q1076	1.4	3.7	8.0	8.0	2.2	4.0			
Q1077	1.7	1.7	7.9	7.9	0	0			MODE FM

IF UNIT IC VOLTAGE CHART (DC VOLTS)

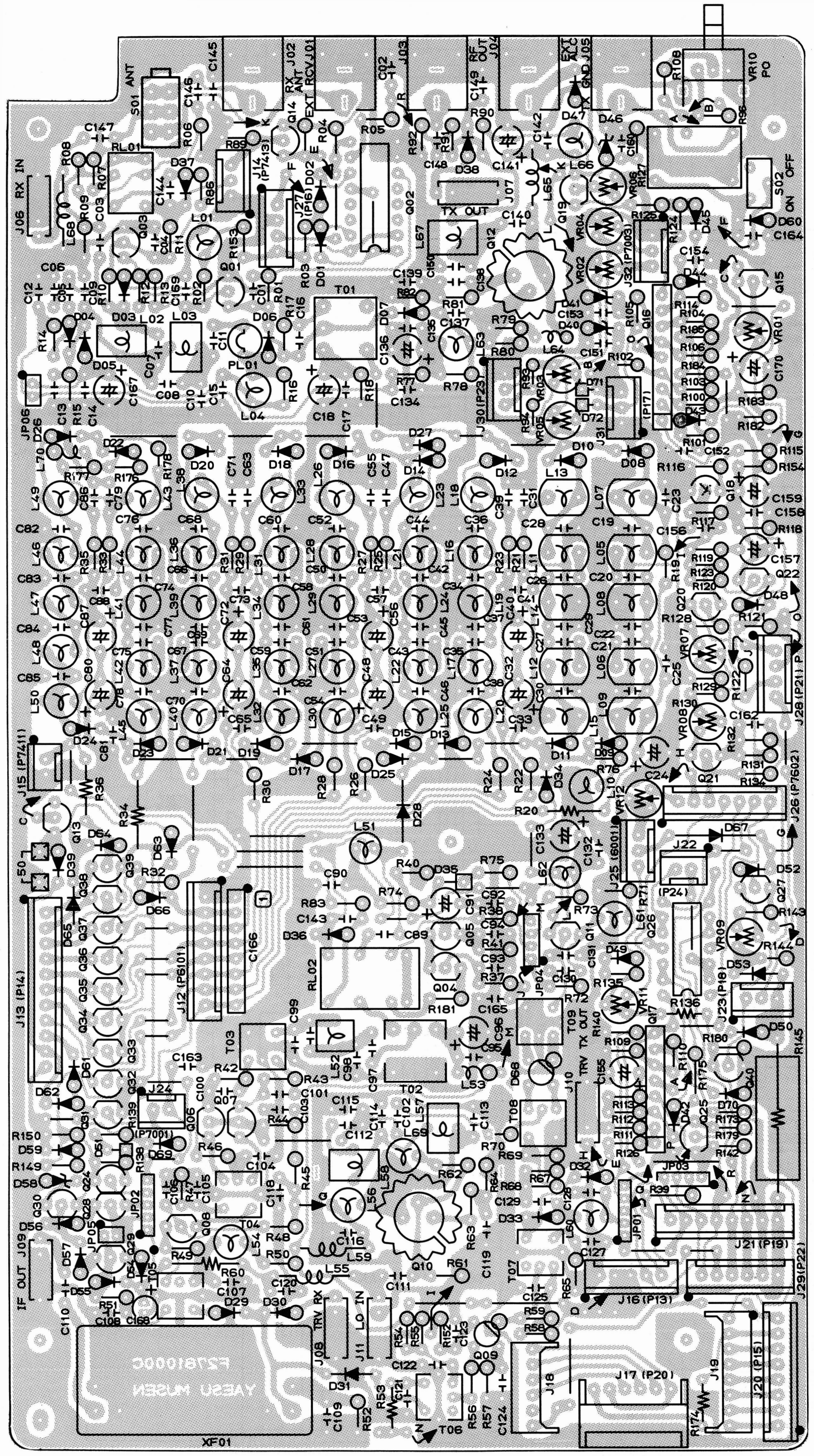
PIN No.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	REMARKS
Q1007	RX	7.4	0	7.5	1.0	1.1	1.1	7.3	4.5	3.7	4.7	—	2.5	2.6	0.7	0	0	0	2.1	MODE FM
	TX	7.3	0	7.4	1.0	1.1	1.1	7.3	4.1	3.4	6.6	—	2.4	2.6	0.7	0	0	0	2.1	
Q1017		8.0	6.9	3.5	3.0	-6.0	3.4	3.7	-6.0	8.0										
Q1036	RX	8.0	6.6	0	1.2	-7.3	0	0	0	8.0										
	TX	8.0	-6.0	0	-3.5	-7.3	0	0	0	8.0										
Q1037		6.8	13.2	12.5	0	0	0	0.6	0.6											
Q1038	RX	0	0	0	0	5.6	6.6	-0.7	0	0	0	0	0	-0.2	8.0					
	TX	0	0	0	0	0	6.6	-0.7	0	0	0	0	0	-0.2	8.0					
Q1051		6.3	5.6	4.9	0	2.8	2.8	2.8												
Q1052	RX	0	0	0	0	0	0	0												PROC ON
	TX	6.3	5.6	5.1	0	2.8	2.8	2.8												
Q1053	RX	0	0	0	0	0	0	0												
	TX	2.6	2.6	3.7	0	5.6	6.5	6.5												
Q1054	RX	0	0	0	0	0	0	0												PROC ON
	TX	6.2	5.4	4.7	0	2.8	2.8	2.8												
Q1055	RX	2.0	2.0	2.0	2.0	6.4	0	0	0.5	0.4	0	6.4	0	0	8.0					
	TX	2.0	2.0	2.0	2.0	6.4	0	0	0.5	0.4	5.8	5.8	8.0	5.8	8.0					
Q1059		—	—	—	—	—	—	—	0	—	—	—	—	—	—	—	5.0			
Q1060		5.0	—	—	—	—	—	—	0	—	—	—	—	—	—	—	—			
Q1070		8.0	-5.9	6.8	2.7	-7.2	-5.9	1.0	-5.9	8.0										

IF UNIT CIRCUIT DIAGRAM

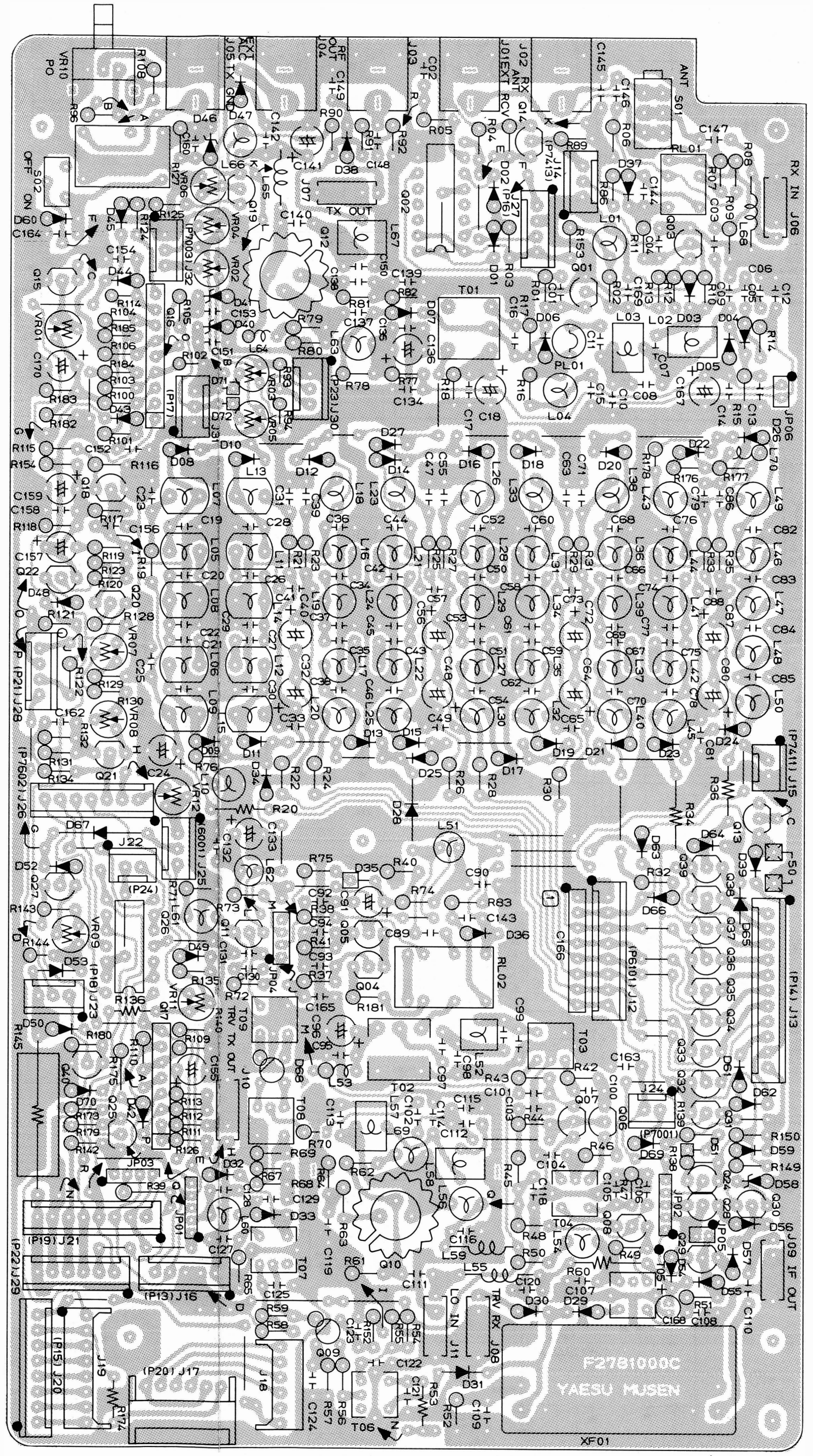


RESISTOR VALUES ARE IN Ω.1/4w: CAPACITOR VALUES ARE IN μF:
AND INDUCTOR VALUES ARE IN H: UNLESS OTHERWISE NOTED.
(M) CAPACITORS ARE POLYESTER FILM.50wv.
DIODES ARE TYPE 1SS53 UNLESS OTHERWISE NOTED.

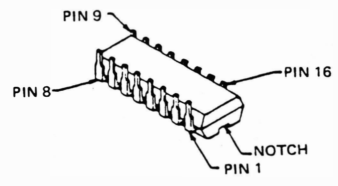
RF UNIT PARTS LAYOUT



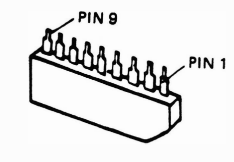
(Viewed from Component side)



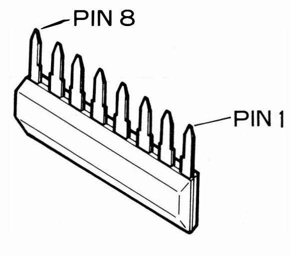
(Viewed from Solder side)



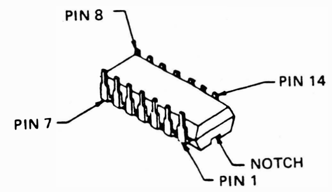
MC14518BCP (Q2002)



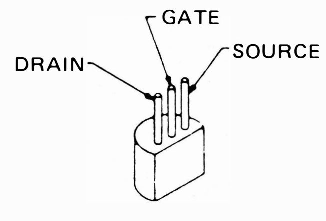
LA6458S (Q2016)



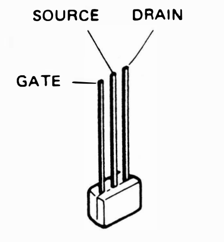
M5218 (Q2017)



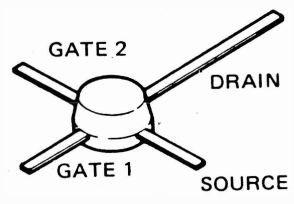
MC14066BCP (Q2026)



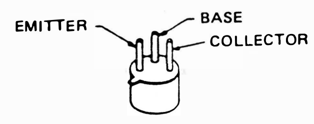
2SK125 (Q2004-2008,2011)
2SK104J (Q2020,2025)



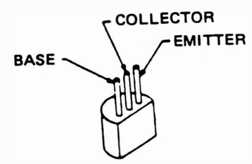
2SK192A-GR (Q2019)



3SK74L (Q2009)

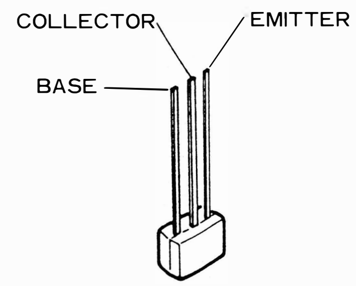


2N4427 (Q2010,2012)



2SA733AP
(Q2021,2024,2027)

2SC945AQ
(Q2001,2003,2018, 2030,2040)



BA1A4M (Q2014,2015)
BN1A4P
(Q2013,2028,2029, 2031-2039)

RF UNIT VOLTAGE CHART

(DC VOLTS)

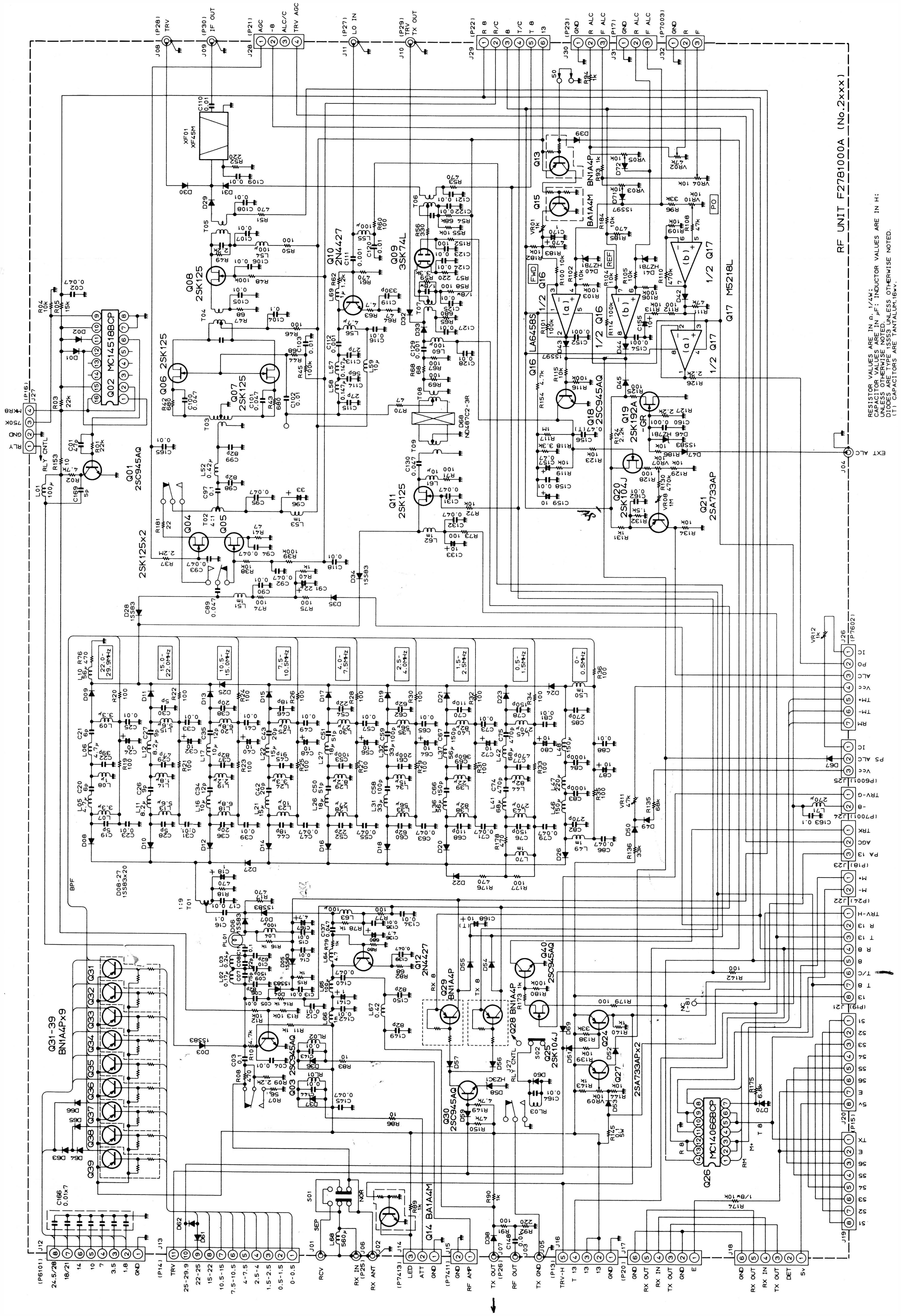
	E (S)		C (D)		B (G1)		(G2)		REMARKS
	R	T	R	T	R	T	R	T	
Q2001	0	0	5.9	8.0	0.25	0			MARKER ON
Q2003	0	0	0	0	0.74	0.7			MARKER ON
Q2004	4.0	6.5	12.3	13.3	2.5	2.5			RF AMP ON
Q2005	1.4	0	4.0	6.5	0.5	- 4.5			RF AMP ON
Q2006	3.8	0.2	12.3	13.3	0.5	- 4.5			
Q2007	3.8	0.2	12.3	13.3	0.5	- 4.5			
Q2008	1.5	0	11.0	13.3	0.5	- 4.5			
Q2009	1.0	1.0	6.6	6.6	1.0	1.0	3.0	3.0	
Q2010	2.7	2.7	13.3	13.3	3.4	3.4			
Q2011	0	1.7	0	10.1	- 4.7	0			
Q2012	4.2	4.2	12.7	12.7	4.9	4.9			
Q2013	12.0	12.0	11.8	11.8	0.5	0.5			28MHz GX
Q2014	0	0	0	0	13.2	13.2			TRV ATT ON
Q2015	0	0	0.1	0.1	12.0	12.0			28MHz GX
Q2018	0	0	3.0	3.0	0	0			
Q2019	0.5	0.5	0.5	0.5	0.6	0.6			
Q2020	5.2	5.2	8.0	8.0	3.0	3.0			
Q2021	4.8	4.8	0	0	4.2	4.2			
Q2024	13.3	13.3	13.2	13.2	12.5	12.5			TRV
Q2025	0	1.4	8.0	7.9	- 4.8	0			TRV
Q2027	13.3	13.3	0	0	13.0	13.0			
Q2028	0	13.0	0	12.0	0	3.8			
Q2029	13.0	0.4	12.8	0.5	3.8	0.4			
Q2030	3.0	3.0	3.0	3.0	3.8	3.8			
Q2031	13.3	13.3	12.7	12.7	0	0			0~500kHz
Q2032	13.3	13.3	12.7	12.7	0	0			0.5~1.5MHz
Q2033	13.3	13.3	12.7	12.7	0	0			1.5~2.5MHz
Q2034	13.3	13.3	12.7	12.7	0	0			2.5~4.0MHz
Q2035	13.3	13.3	12.7	12.7	0	0			4.0~7.5MHz
Q2036	13.3	13.3	12.7	12.7	0	0			7.5~10.5MHz
Q2037	13.3	13.3	12.7	12.7	0	0			10.5~15.0MHz
Q2038	13.3	13.3	12.7	12.7	0	0			15.0~22.0MHz
Q2039	13.3	13.3	12.7	12.7	0	0			22.0~30.0MHz
Q2040	0	0	0	0	0	0.7			TRV

RF UNIT IC VOLTAGE CHART

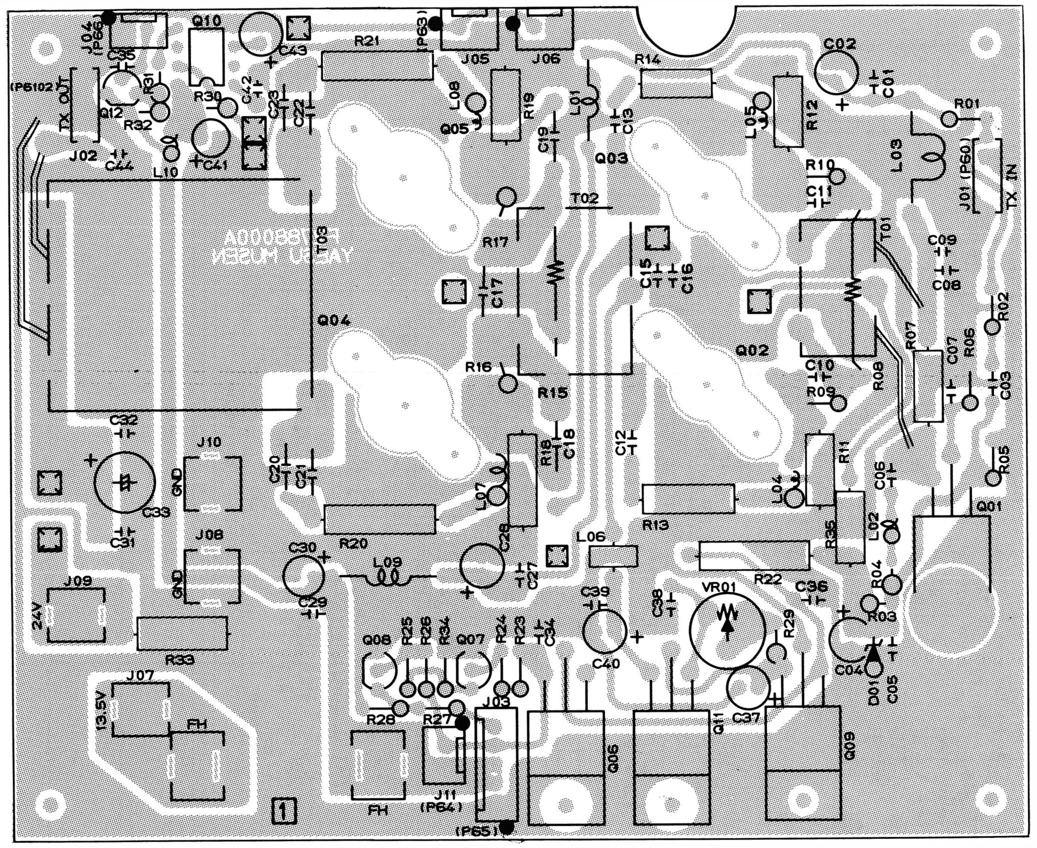
(DC VOLTS)

PIN No.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	REMARKS
Q2002	RX	3.0	8.0	—	—	—	1.6	0	0	4.0	8.0	4.1	3.0	—	—	1.2	8.0	MARKER ON
	TX	0	8.0	—	—	—	0	0	0	4.0	-0.4	8.0	0	—	—	0.8	8.0	
Q2016		8.0	-3.4	0	0	-7.2	0	0	-3.4	8.0								
Q2017		0	0	0	-7.2	0	0	0	8.0									
Q2026	RX	0	0	0	0	0	0	-0.7	0	0	0	0	8.0	8.0	8.0			METER ALC
	TX	0	0	0	0	8.0	8.0	-0.7	0	0	0	0	-0.4	-0.4	8.0			

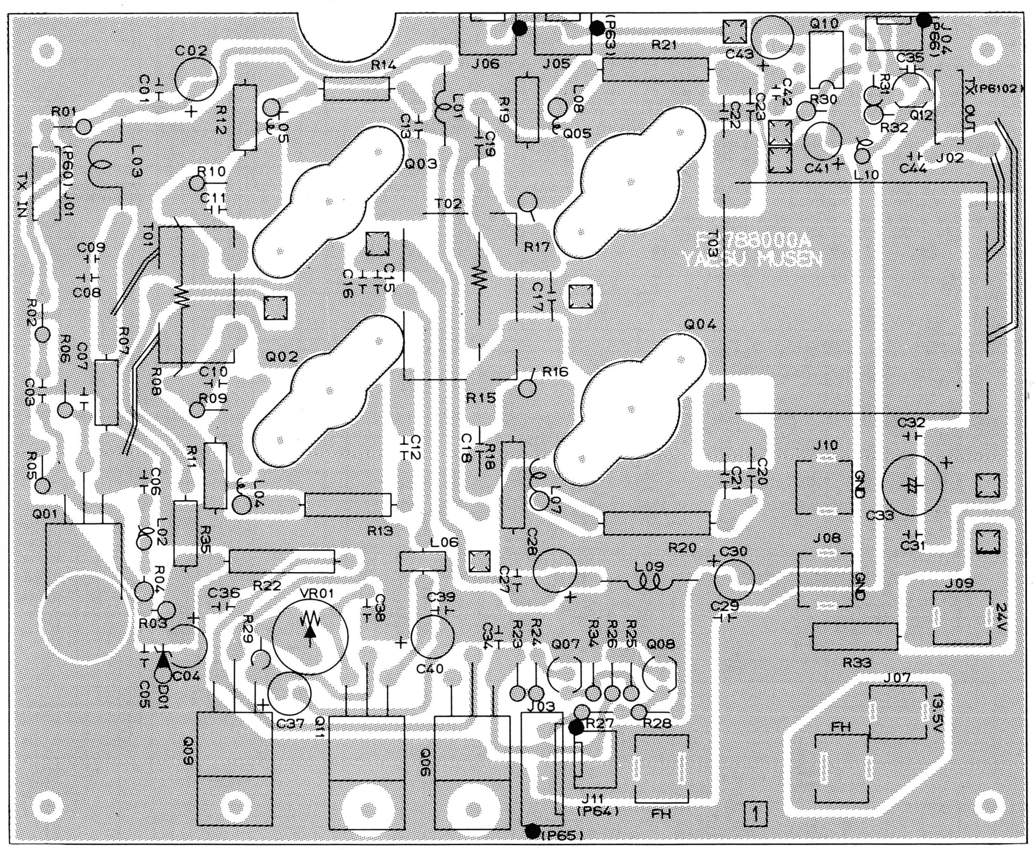
RF UNIT CIRCUIT DIAGRAM



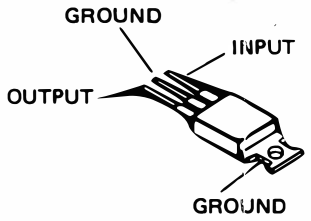
100W PA UNIT PARTS LAYOUT



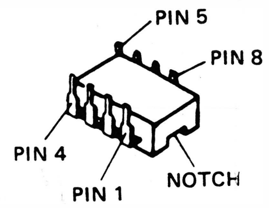
(Viewed from Component side)



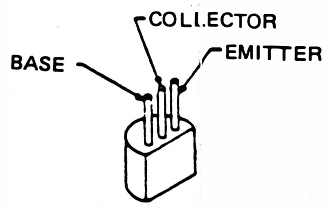
(Viewed from Solder side)



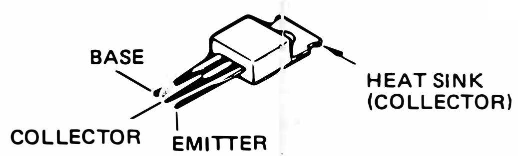
µPC7808H (Q9009)



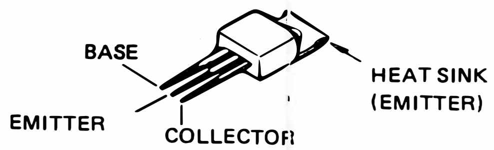
TL7705CPB (Q9010)



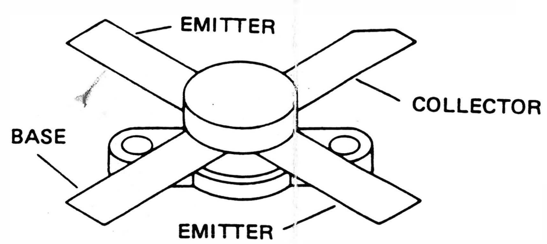
2SA952L (Q9012)
2SC458B (Q9007,9008)



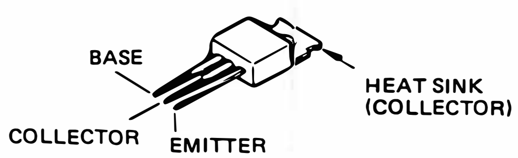
2SA1012Y (Q9006)



2SC1971 (Q9001)

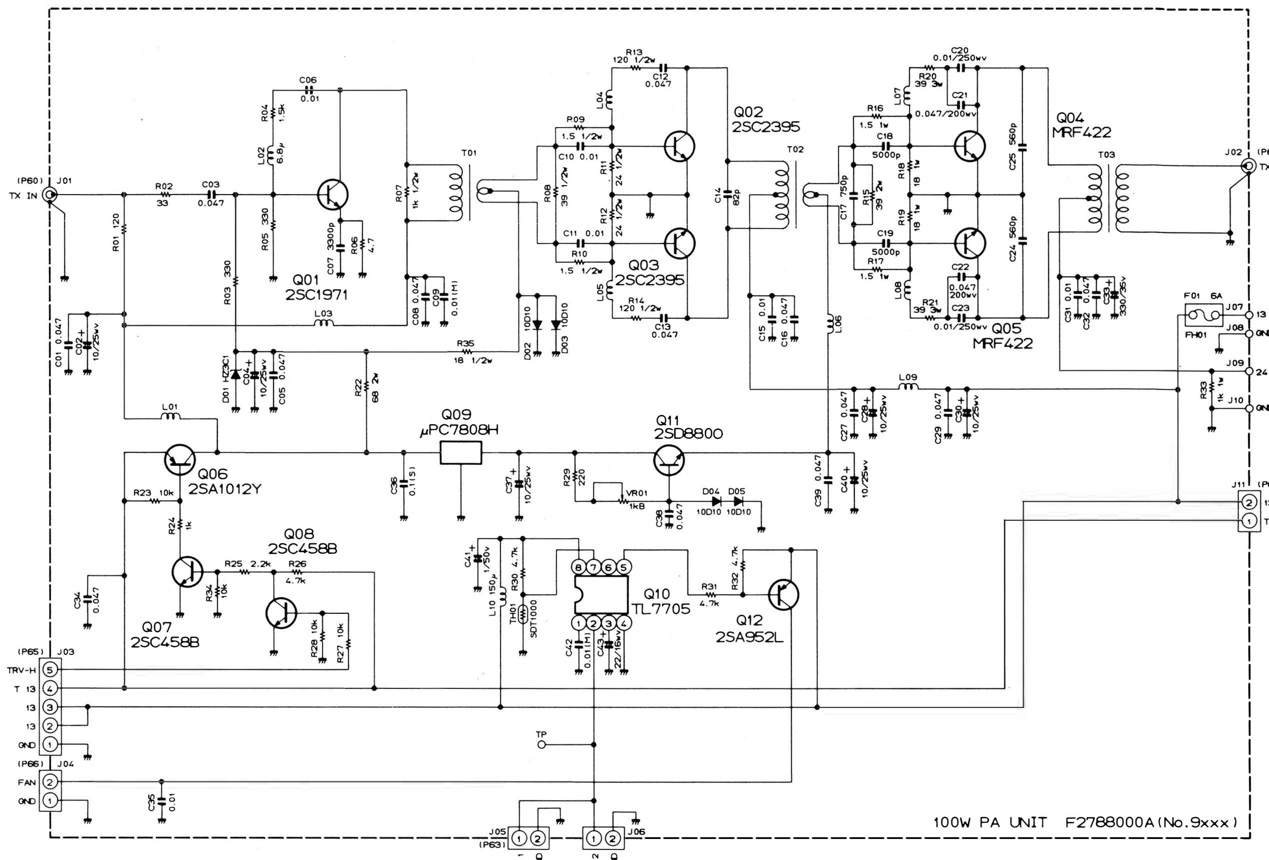


2SC2395 (Q9002,9003)
MRF422 (Q9004,9005)

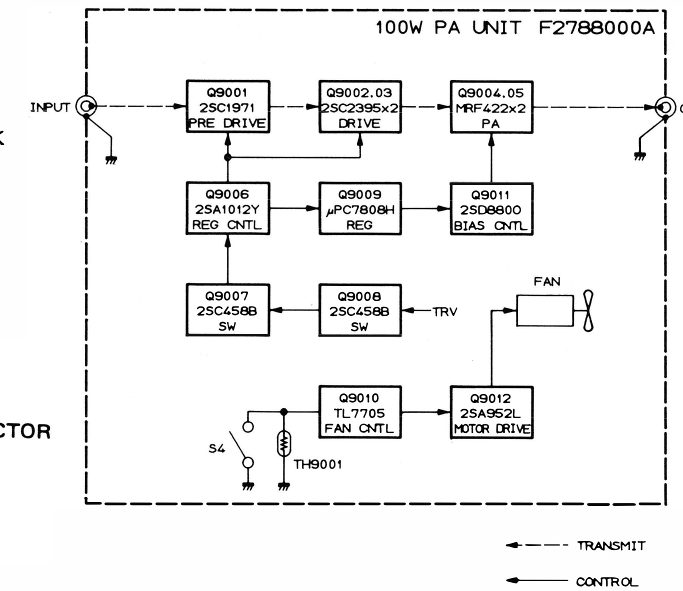


2SD880O (Q9011)

100W PA UNIT CIRCUIT DIAGRAM



RESISTOR VALUES ARE IN Ω.1/4w: CAPACITOR VALUES ARE IN µF:
AND INDUCTOR VALUES ARE H: UNLESS OTHERWISE NOTED.
(M) CAPACITORS ARE POLYESTER FILM.50wv.
(S) CAPACITORS ARE SEMICONDUCTOR CERAMIC.25wv



100W PA UNIT VOLTAGE CHART

(DC VOLTS)

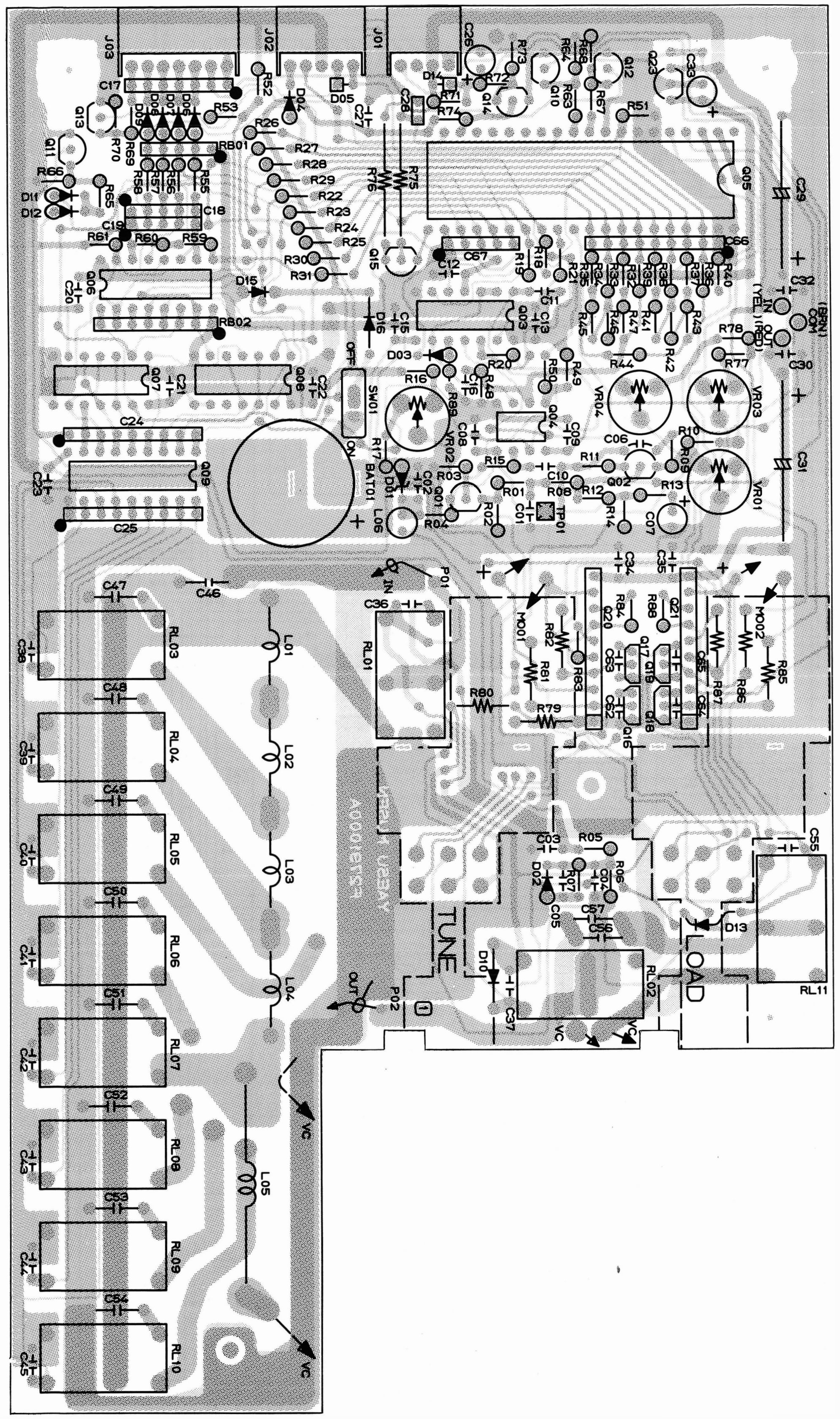
	E	(S)	C	(D)	B	(G_1)	REMARKS
	R	T	R	T	R	T	
Q9001	0	0.5	0	13.0	0	1.3	
Q9002	0	0	13.3	13.3	0	0.7	
Q9003	0	0	13.3	13.3	0	0.7	
Q9004	0	0	23.5	23.5	0	0.7	
Q9005	0	0	23.5	23.5	0	0.7	
Q9006	0	13.3	0	13.0	0	12.2	
Q9007	0	0	0	0	0.7	0.7	
Q9008	0	0	0	0	0.7	0.7	TRV
Q9009	IN 13.0	13.0	GND 0	0	OUT 0	8.0	
Q9011	0	0.8	0	8.0	0	1.4	
Q9012	13.3	13.3	5.2	5.2	13.0	13.0	FAN SLOW

100W PA UNIT IC VOLTAGE CHART

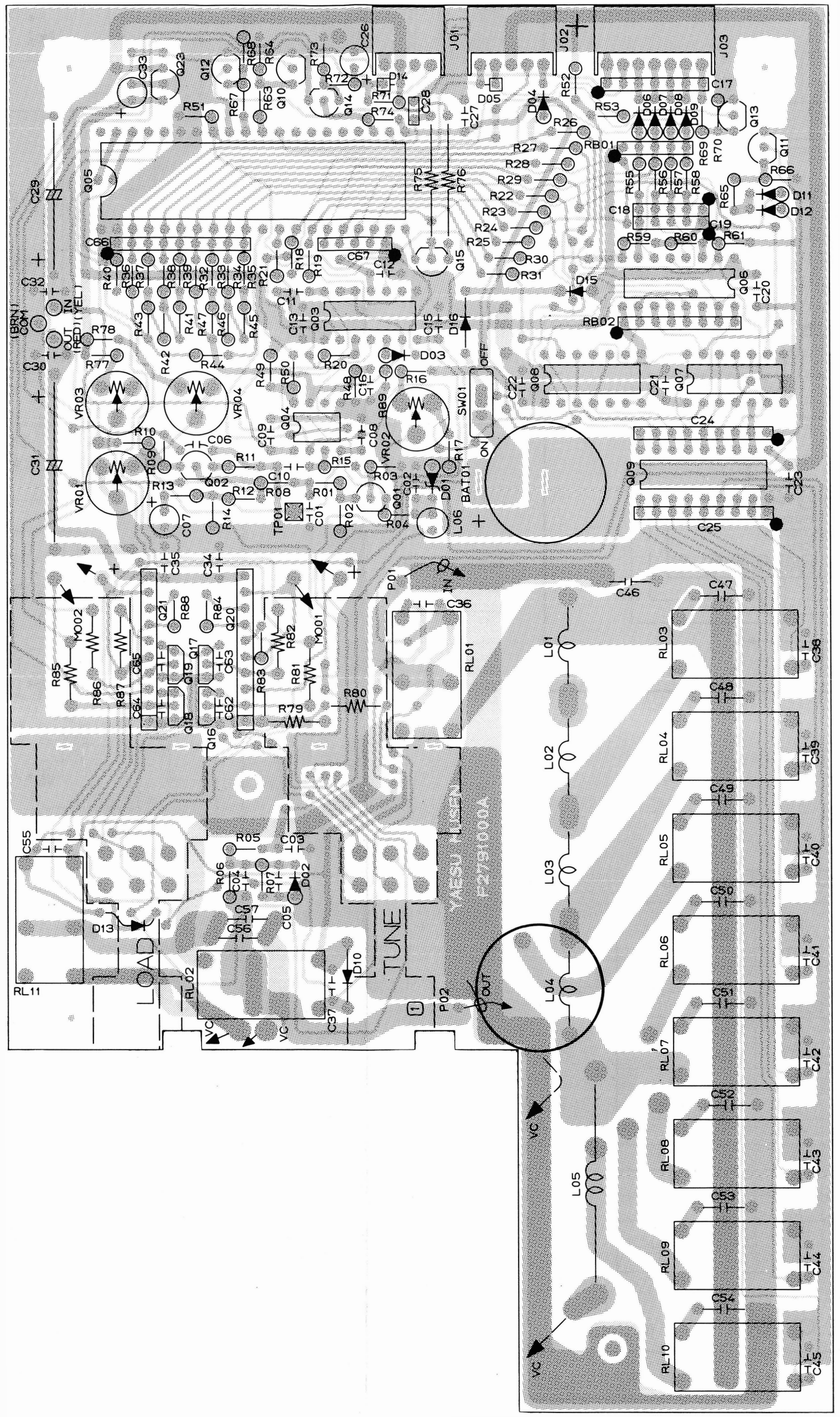
(DC VOLTS)

PIN No.	1	2	3	4	5	6	7	8
Q9010	—	—	—	0	—	—	—	13.0

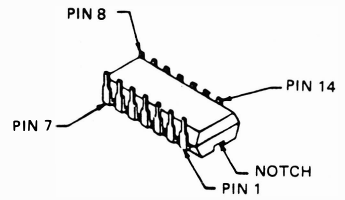
TUNER UNIT PARTS LAYOUT



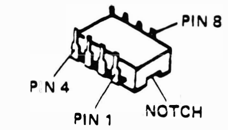
(Viewed from Component side)



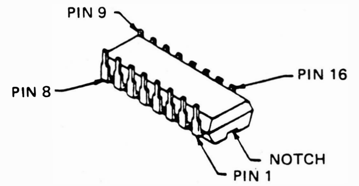
(Viewed from Solder side)



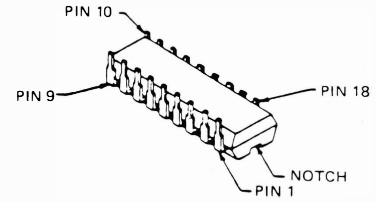
MC14066BCP (Q5003)
MC14071BCP (Q5007,Q5008)



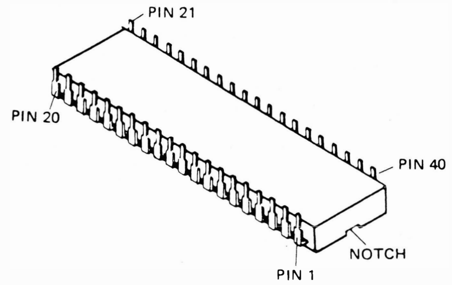
μPC277C (Q5004)



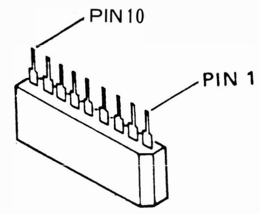
MC14028BCP (Q5006)



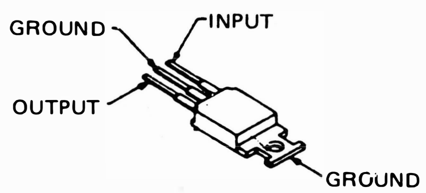
M54563P (Q5009)



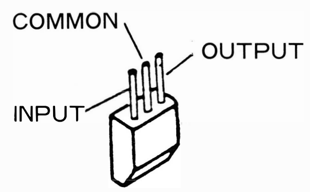
μPD7507C-070 (Q5005)



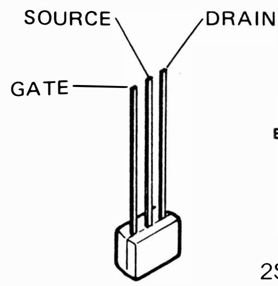
TH3C10 (Q5020,Q5021)



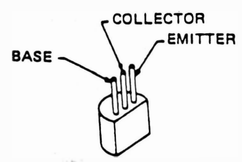
μPC7808H (Q5022)



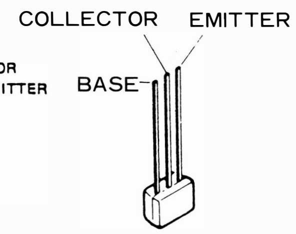
μPC78L05 (Q5023)



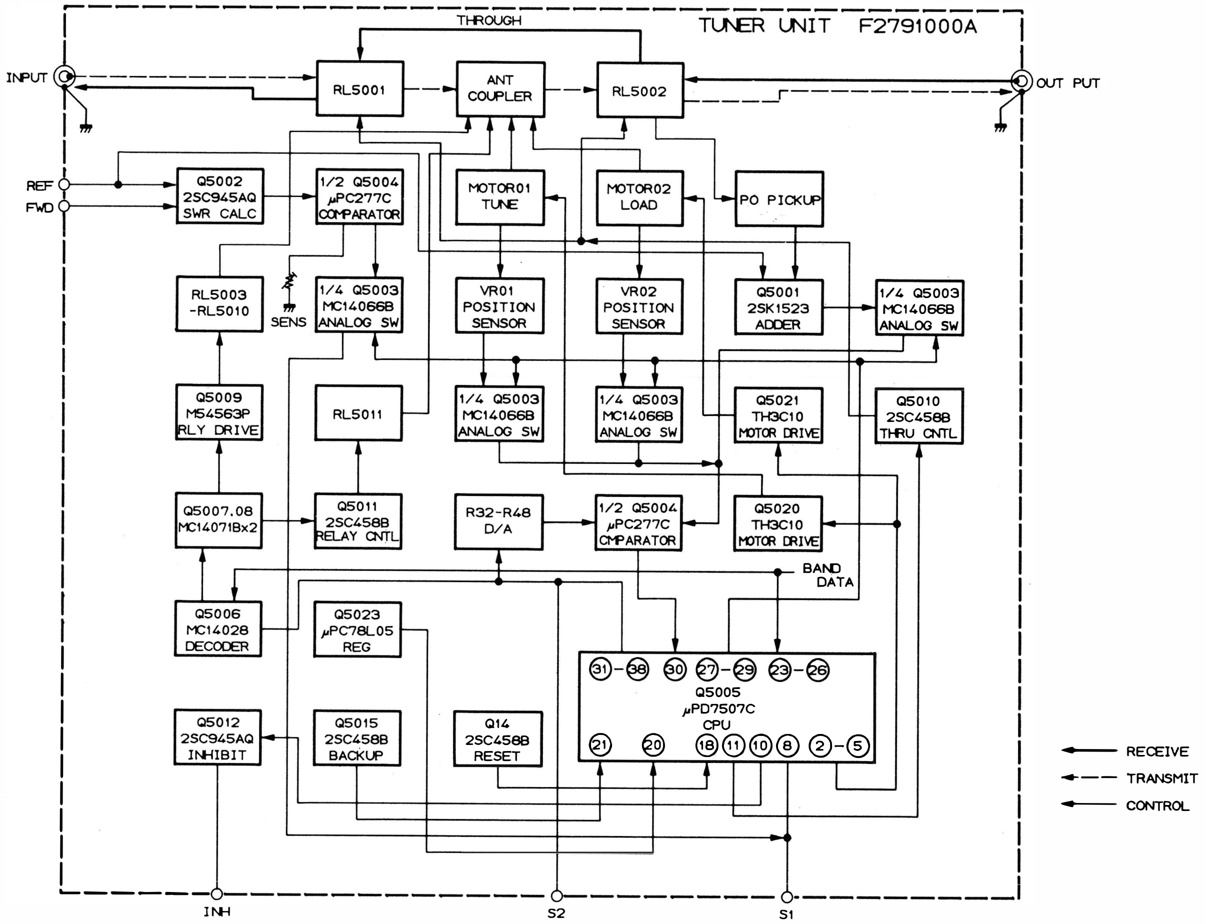
2SK152-3 (Q5001)



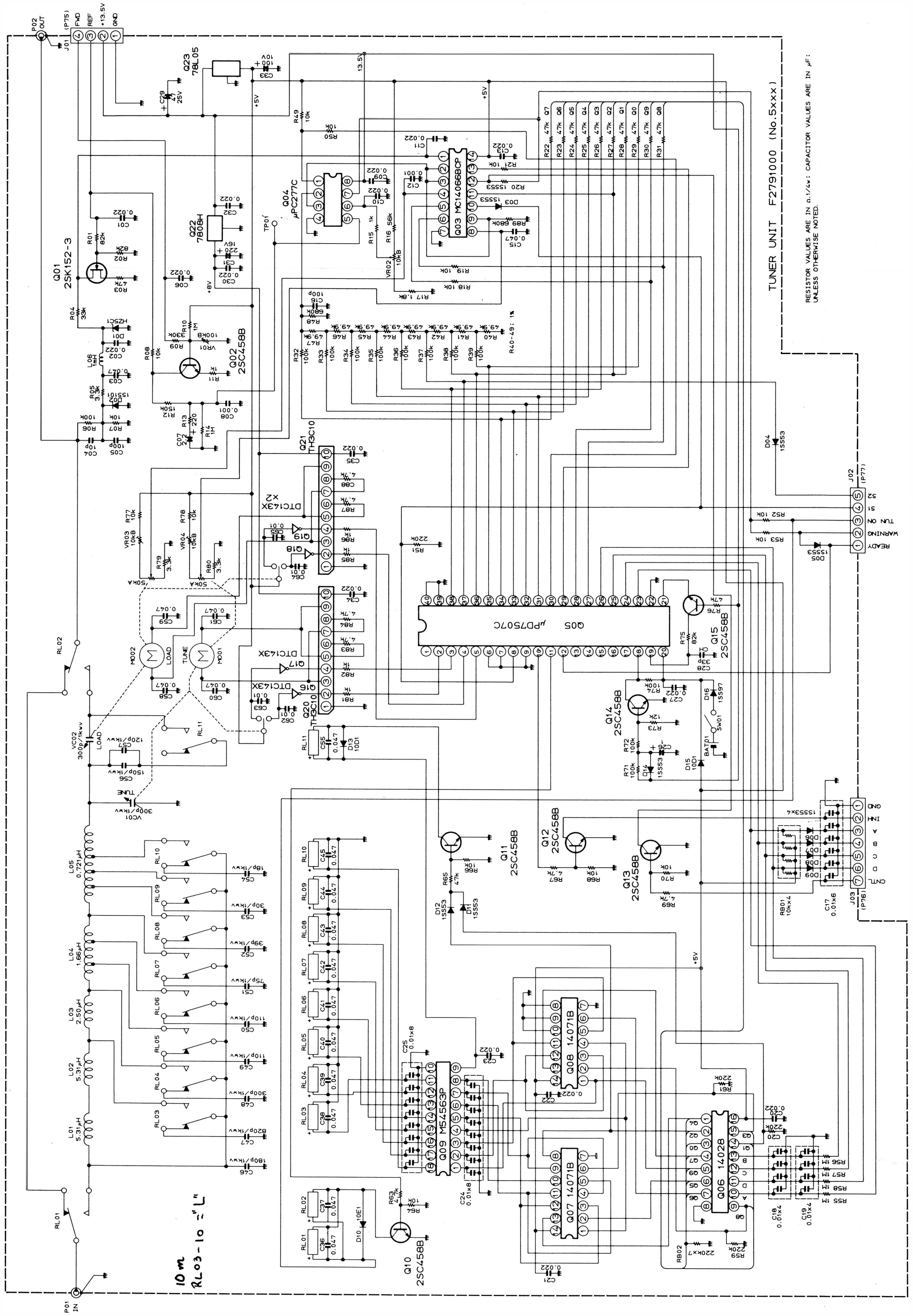
2SC458B
(Q5002,Q5010,Q5015)



BA1A4M
(Q5016-5019)



TUNER UNIT CIRCUIT DIAGRAM



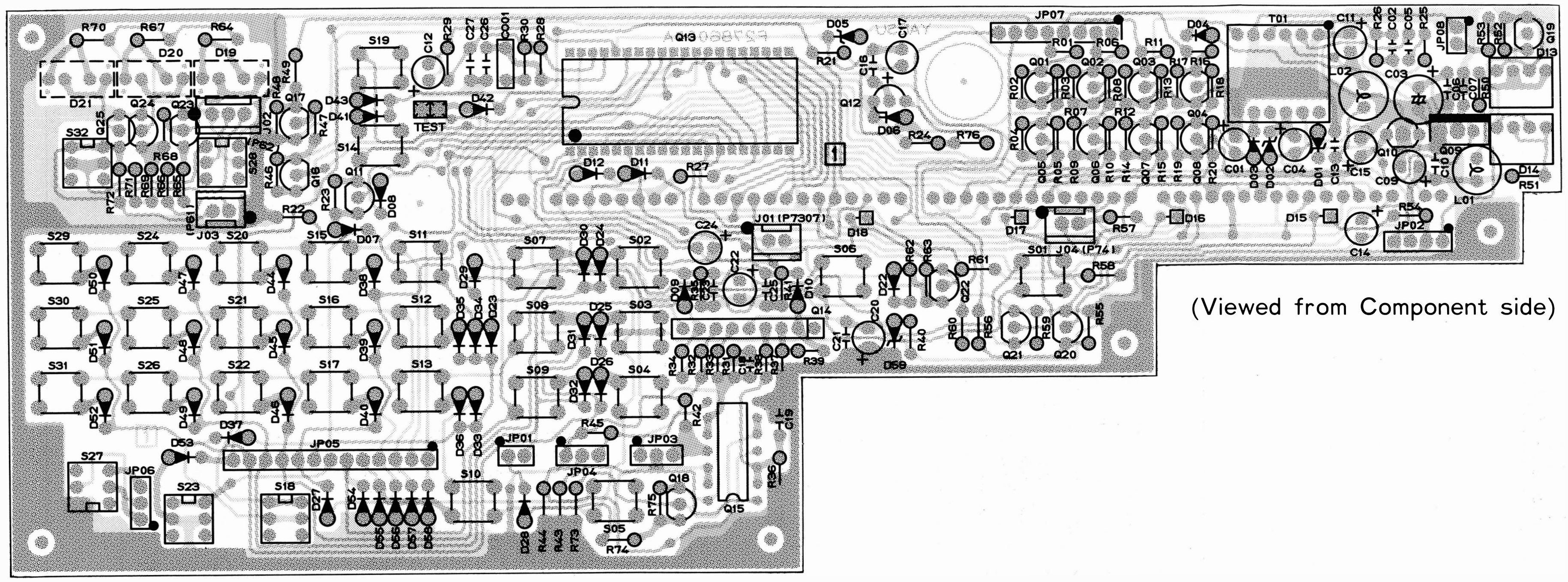
TUNER UNIT VOLTAGE CHART (DC VOLTS)

	E	(S)	C	(D)	B	(G₁)	REMARKS
	R	T	R	T	R	T	
Q5001	0	0	0	0	0	0	
Q5002	0	0	0	0	0.3	0.3	
Q5010	0	0	0.2	0.2	0.8	0.8	TUNER ON
Q5011	0	0	0	0	0.8	0.8	3.5MHz
Q5012	0	0	4.5	4.5	0	0	
Q5013	0	0	0	0	0.7	0.7	1MHz(TRV)
Q5014	0	0	0	0	0.6	0.6	
Q5015	2.0	2.0	2.0	2.0	2.6	2.6	
Q5016	0	0	0	0	0	0	
Q5017	0	0	0	0	0	0	
Q5018	0	0	0	0	0	0	
Q5019	0	0	0	0	0	0	

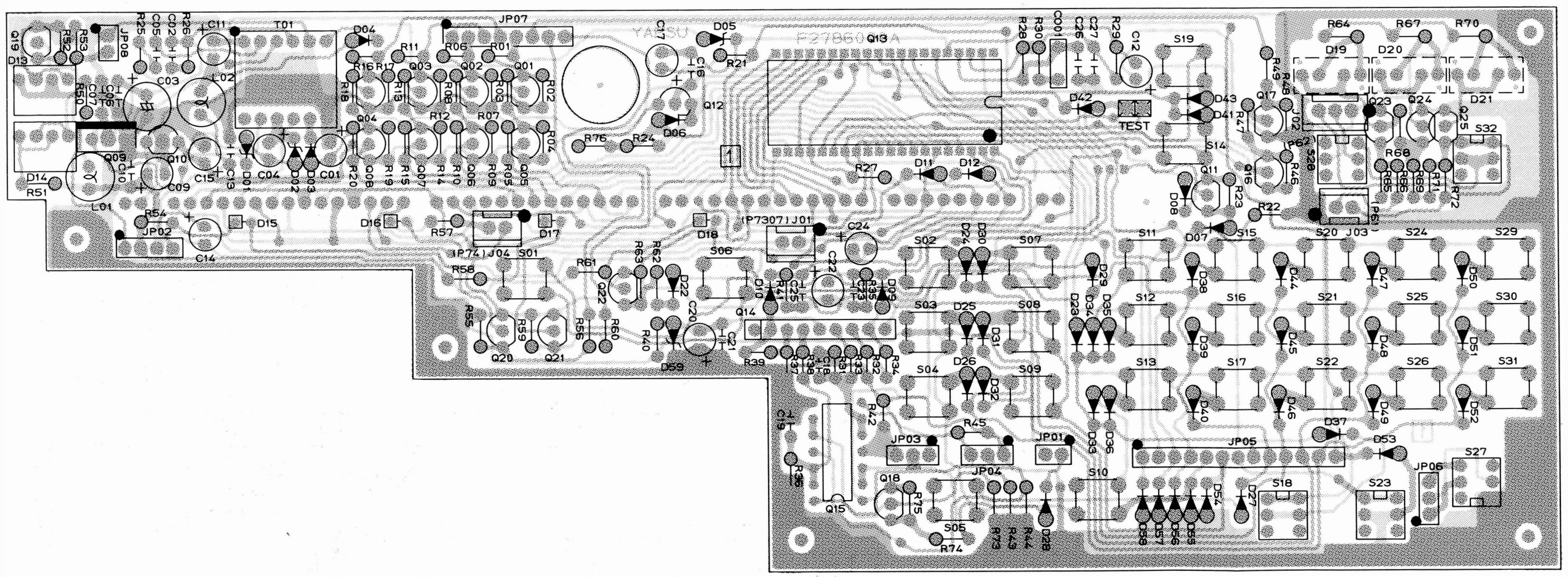
TUNER UNIT IC VOLTAGE CHART (DC VOLTS)

PIN No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Q5003	—	—	—	—	—	—	0	—	—	—	—	—	—	5.0		
Q5004	—	—	—	0	—	—	—	13.3								
Q5006	—	—	—	—	—	—	—	0	—	—	—	—	—	—	—	5.0
Q5007	—	—	—	—	—	—	0	—	—	—	—	—	—	5.0		
Q5008	—	—	—	—	—	—	0	—	—	—	—	—	—	5.0		
Q5009	—	—	—	—	—	—	—	—	11.4	0						
Q5020	0	—	—	—	—	—	—	—	—	8.0						
Q5021	0	—	—	—	—	—	—	—	—	8.0						

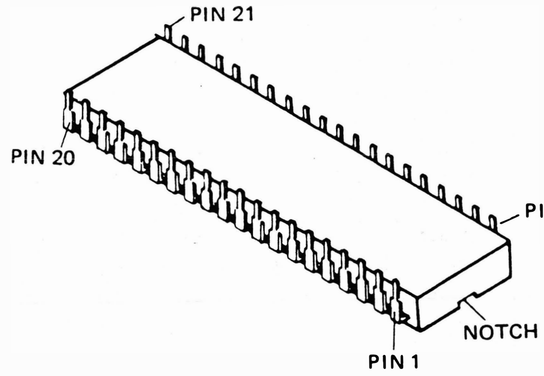
DISPLAY UNIT PARTS LAYOUT



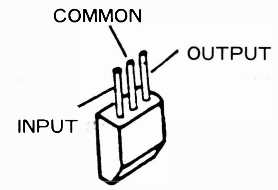
(Viewed from Component side)



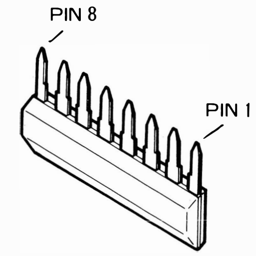
(Viewed from Solder side)



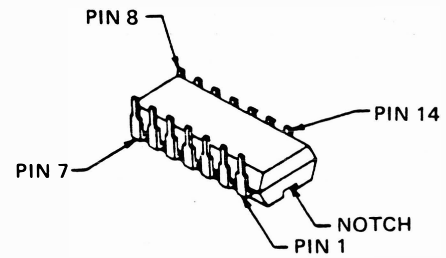
TMS2370 (Q7013)



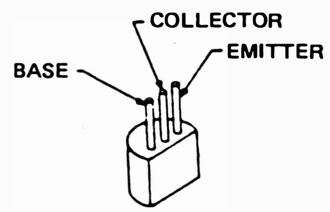
μPC78L05 (Q7010)



M5218L (Q7014)

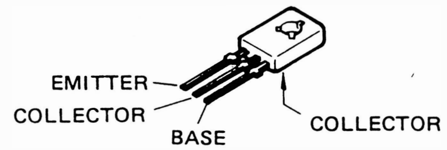


MC14066BCP (Q7015)



2SA733AP
(Q7005-7008,7011
7012,7016,7018)

2SC458B
(Q7001-7004,7017
7019-7025)



2SC496Y (Q7009)

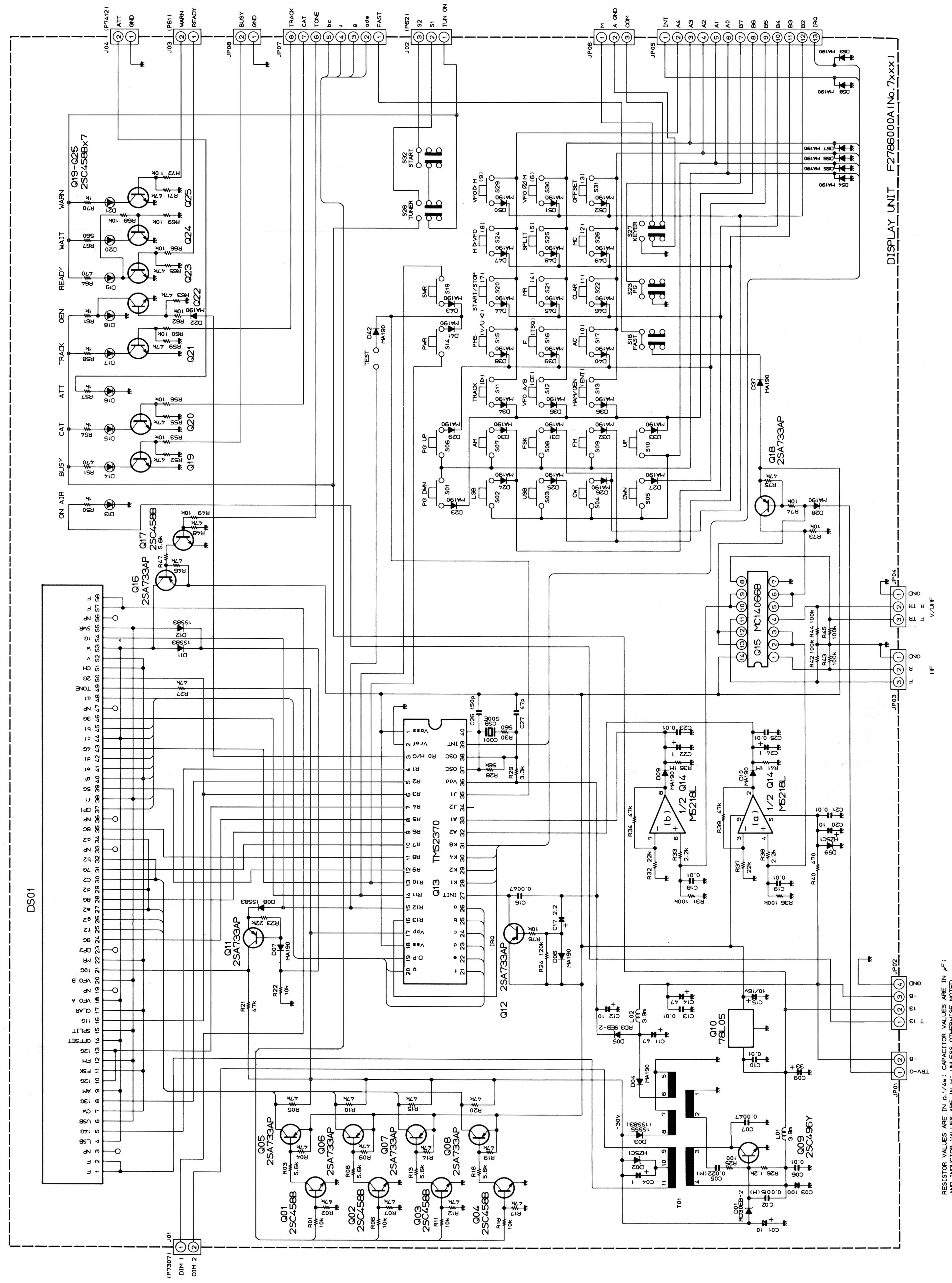
DISPLAY UNIT VOLTAGE CHART (DC VOLTS)

	E	(S)	C	(D)	B	(G1)	REMARKS
	R	T	R	T	R	T	
Q7001	0	0	0	0	0.7	0.7	430MHz
Q7002	0	0	0	0	0.7	0.7	"050"MHz
Q7003	0	0	0	0	0.7	0.7	430MHz
Q7004	0	0	0	0	0.7	0.7	430MHz
Q7005	5.0	5.0	5.0	5.0	4.5	4.5	430MHz
Q7006	5.0	5.0	5.0	5.0	4.5	4.5	"050"MHz
Q7007	5.0	5.0	5.0	5.0	4.5	4.5	430MHz
Q7008	5.0	5.0	5.0	5.0	4.5	4.5	430MHz
Q7009	0	0	AC	AC	AC	AC	DC-DC
Q7011	0	0	-27.0	-27.0	0	0	
Q7012	5.0	5.0	-3.5	-3.5	5.0	5.0	
Q7016	5.0	5.0	5.0	5.0	4.4	4.4	TONE ON
Q7017	0	0	0	0	0.7	0.7	TONE ON
Q7018	5.0	5.0	5.0	5.0	4.4	4.4	TRV
Q7019	0	0	0	0	0.7	0.7	BUSY LED ON
Q7020	0	0	0	0	0.7	0.7	CAT LED ON
Q7021	0	0	0	0	0.7	0.7	TRACK LED ON
Q7022	0	0	0	0	0.7	0.7	GEN LED OFF
Q7023	0	0	0	0	0.7	0.7	READY LED ON
Q7024	0	0	0	0	0.7	0.7	WAIT LED ON
Q7025	0	0	0	0	0.7	0.7	WARN LED ON
Q01	0		0		0.8		VRC

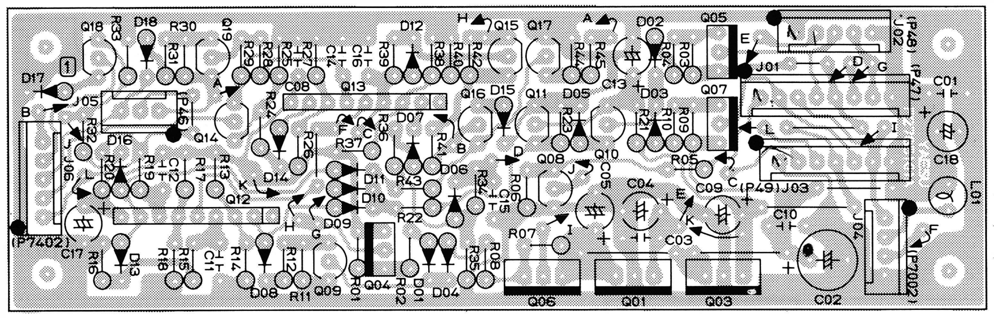
DISPLAY UNIT IC VOLTAGE CHART (DC VOLTS)

PIN No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Q7014	0	0	0	-4.9	0	0	0	5.0						
Q7015	0	0	0	0	0	0	0	0	0	0	0	2.3	2.3	5.0

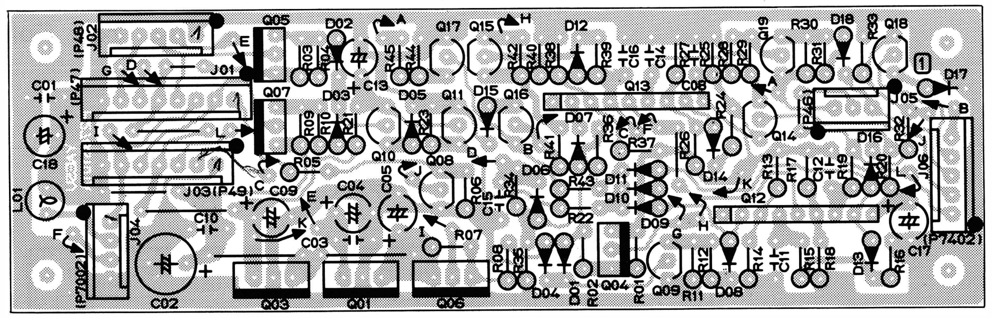
DISPLAY UNIT CIRCUIT DIAGRAM



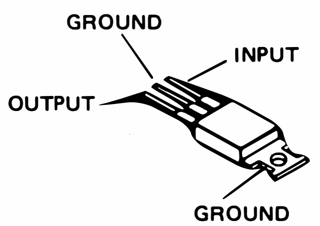
CONTROL UNIT PARTS LAYOUT



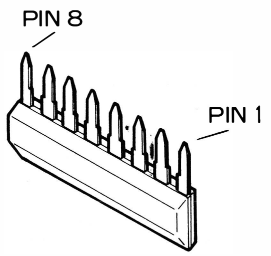
(Viewed from component side)



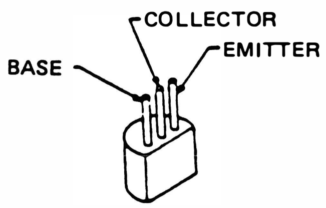
(Viewed from solder side)



TA78009AP (Q4001)
μPC7808H (Q4003)

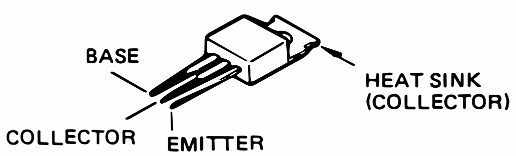


M5218L
(Q4012,4013)

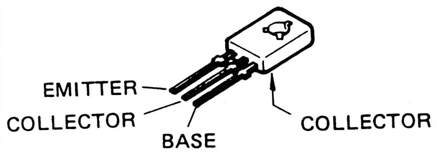


2SA733AP
(Q4015,4019)

2SC945AQ
(Q4008-4011,4014
4016-4018)



2SA1012Y (Q4006)



2SC496Y
(Q4004,4005,4007)

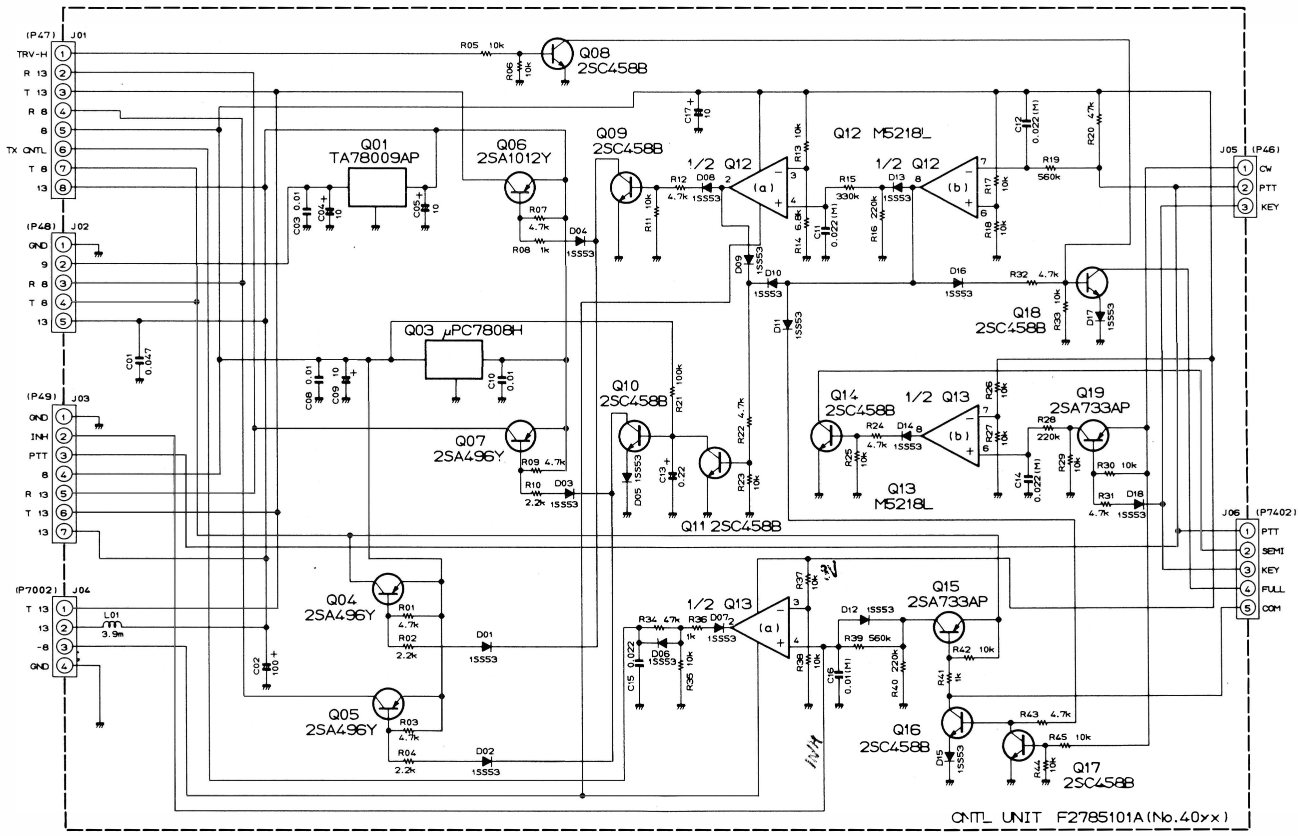
CONTROL UNIT VOLTAGE CHART (DC VOLTS)

	E	(S)	C	(D)	B	(G_1)	REMARKS
	R	T	R	T	R	T	
Q4004	8.0	8.0	0	8.0	8.0	7.3	
Q4005	8.0	8.0	8.0	0	7.3	8.0	
Q4006	13.2	13.2	0	13.0	13.2	12.4	
Q4007	13.2	13.0	0	13.0	13.2	12.4	
Q4008	0	0	0	0	0.6	0.6	TRV
Q4009	0	0	12.7	0	0	0.7	
Q4010	0.8	0	0	12.7	1.5	0	
Q4011	0	0	1.5	0	0	0.7	
Q4014	0	0	0	0.8	0	0	
Q4015	0	8.0	0	8.0	0	7.2	
Q4016	0	0.8	0	0.8	0	1.5	
Q4017	0	0	0	1.5	0	0	
Q4018	0	0.7	0	0.7	0	1.4	
Q4019	8.0	8.0	8.0	8.0	7.3	7.3	CW SEMI KEY DWN

CONTROL UNIT IC VOLTAGE CHART (DC VOLTS)

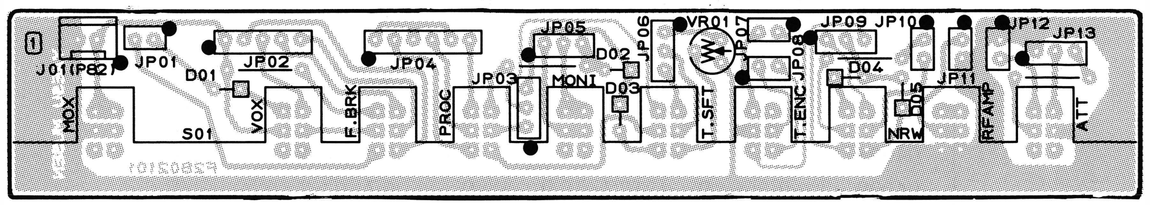
PIN No.		1	2	3	4	5	6	7	8	REMARKS
Q4012	RX	-6.0	7.5	4.0	-7.4	0	3.24	-6.0	8.0	
	TX	7.1	0	4.0	-7.4	6.3	3.24	7.1	8.0	
Q4013	RX	-6.0	4.0	0	-7.4	0	4.0	-6.0	8.0	CW SEMI KEY DWN
	TX	7.2	4.0	8.0	-7.4	7.6	4.0	7.5	8.0	

CONTROL UNIT CIRCUIT DIAGRAM

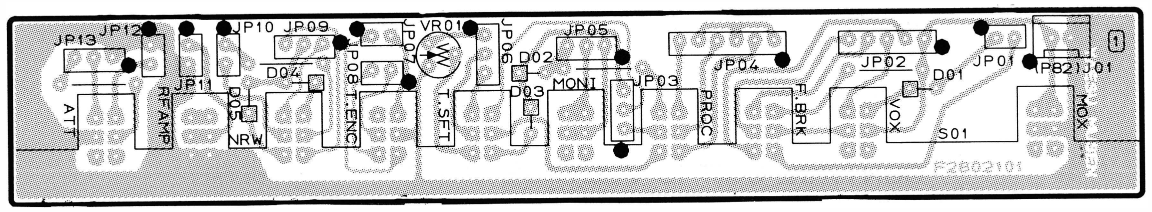


RESISTOR VALUES ARE IN Ω.1/4w: CAPACITOR VALUES ARE IN μF:
AND INDUCTOR VALUES ARE IN H: UNLESS OTHERWISE NOTED.
(M) CAPACITORS ARE POLYESTER FILM.50wv.

SW A UNIT PARTS LAYOUT

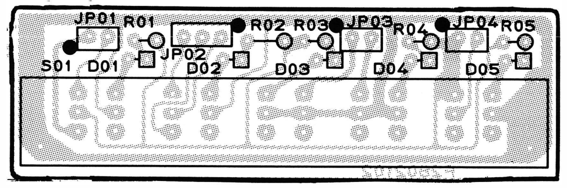


(Viewed from Component side)

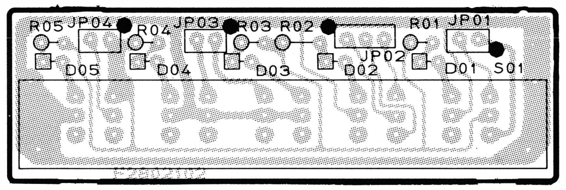


(Viewed from Solder side)

SW B UNIT PARTS LAYOUT

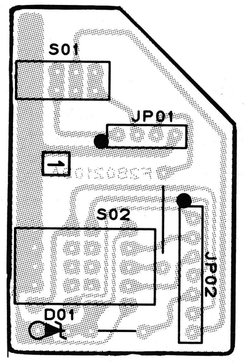


(Viewed from Component side)

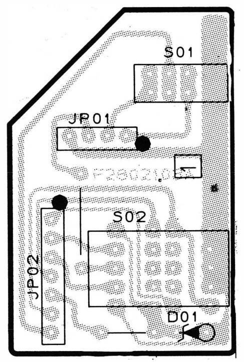


(Viewed from Solder side)

SW C UNIT PARTS LAYOUT



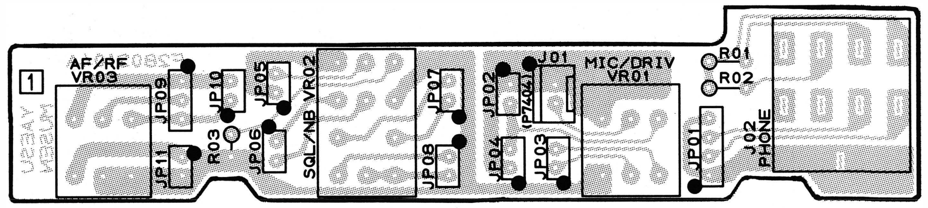
(Viewed from Component side)



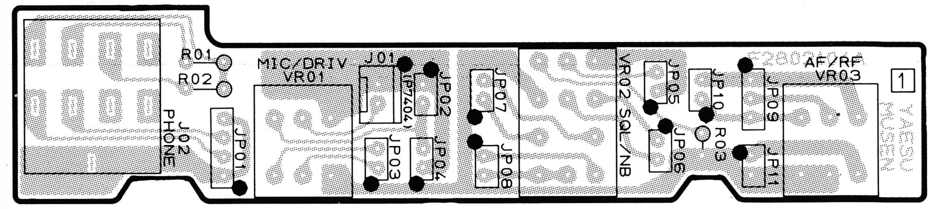
(Viewed from Solder side)

See page 19 for Schematic Diagrams of these Units.

VR A UNIT PARTS LAYOUT

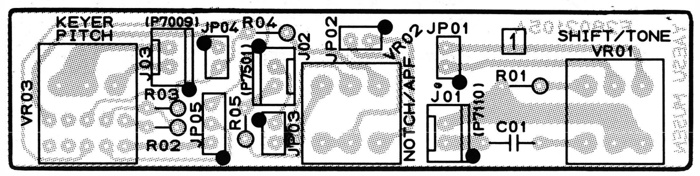


(Viewed from Component side)

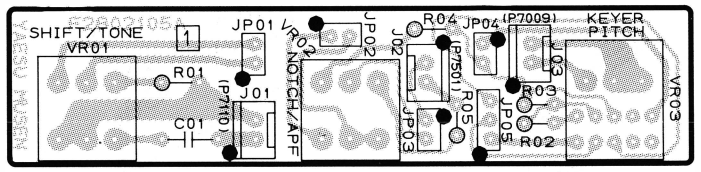


(Viewed from Solder side)

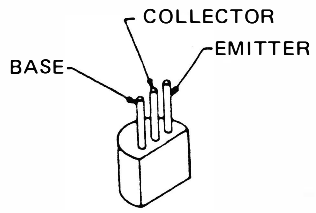
VR B UNIT PARTS LAYOUT



(Viewed from Component side)

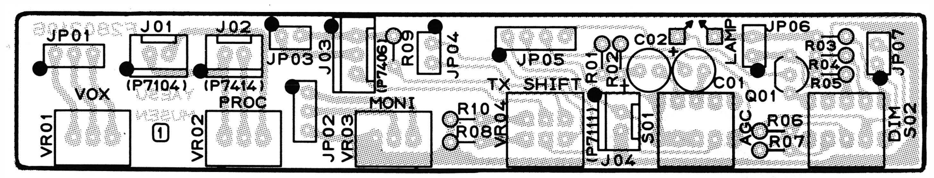


(Viewed from Solder side)

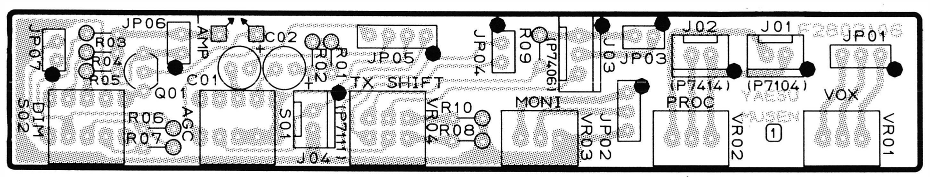


2SC1959Y (Q7301)

VR C UNIT PARTS LAYOUT

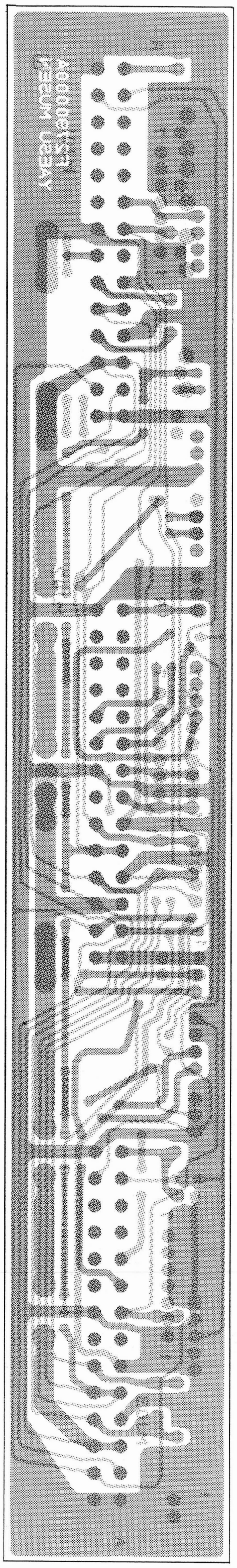


(Viewed from Component side)

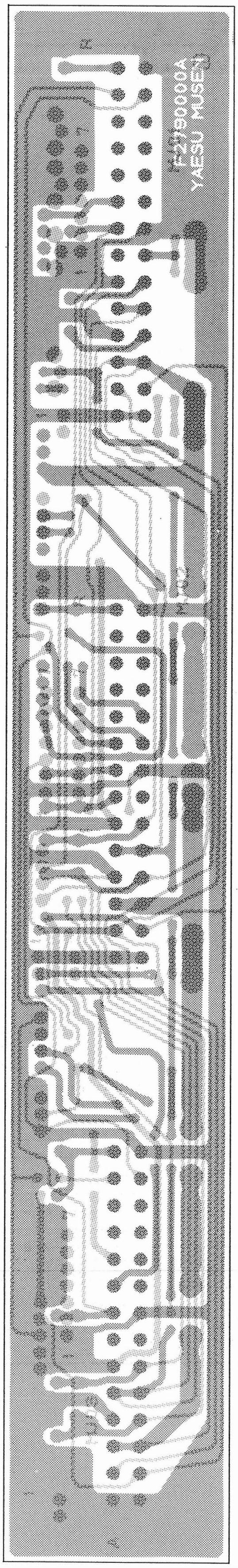


(Viewed from Solder side)

TRV CNTL UNIT PARTS LAYOUT

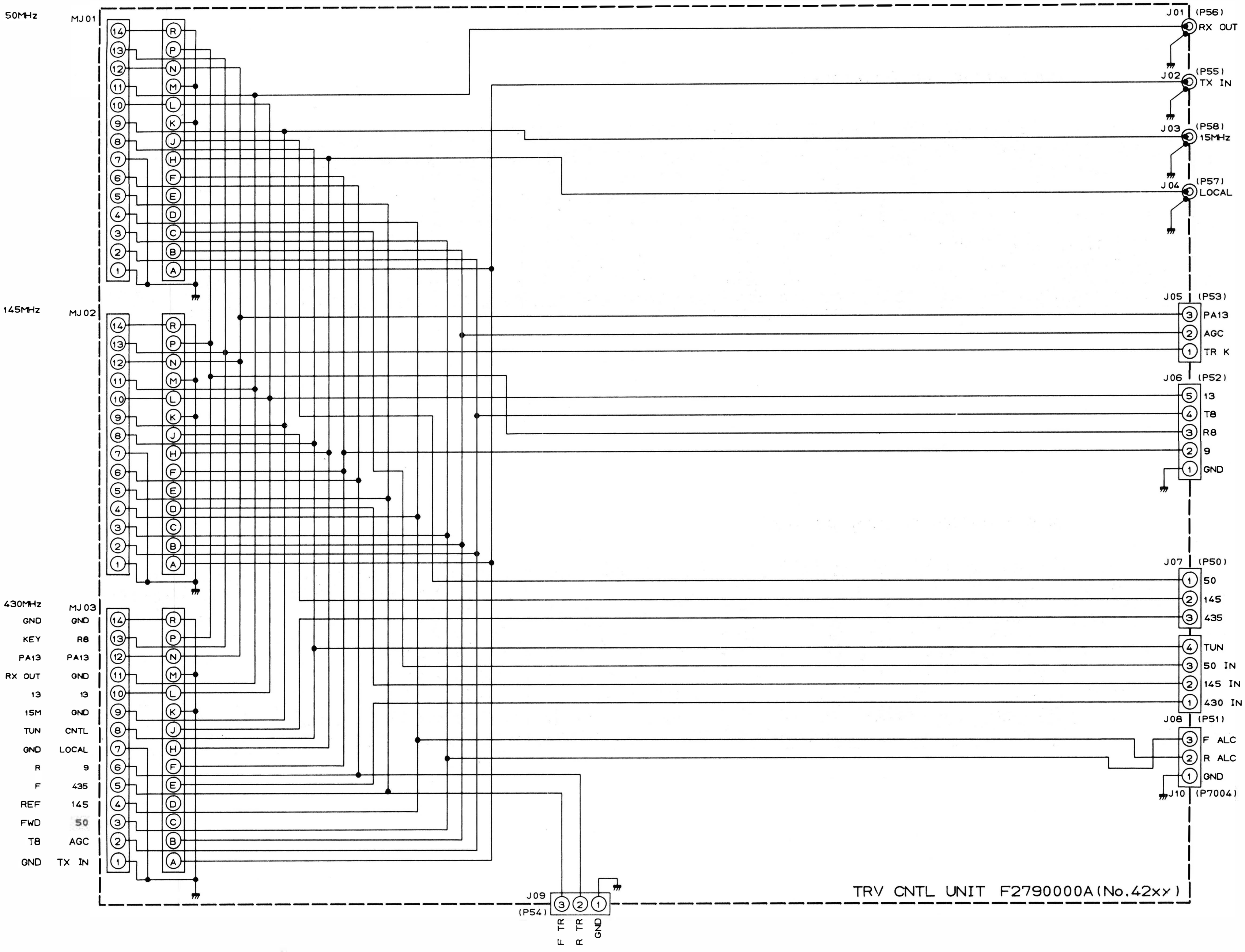


(Viewed from Component side)



(Viewed from Solder side)

TRV CNTL UNIT CIRCUIT DIAGRAM



FEX-767-6 6m BAND MODULE

6m LOCAL UNIT

All measurements and adjustments are to be made while receiving unless otherwise stated.

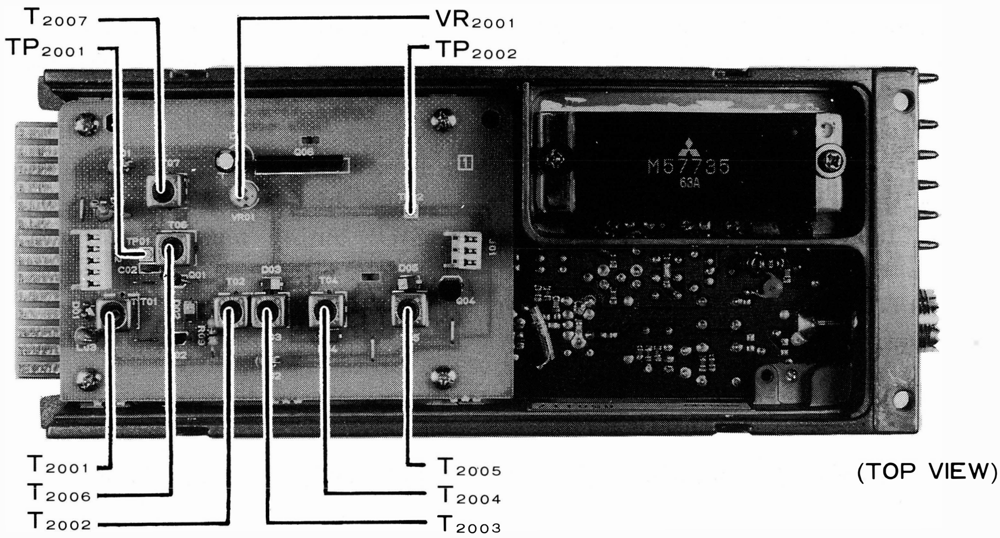
(1) VCV (Varactor Control Voltage)
Tune to 50.5 MHz, and connect the high impedance DC voltmeter to TP2002. Adjust VR2001, if necessary, for 2.0 ±0.2V.

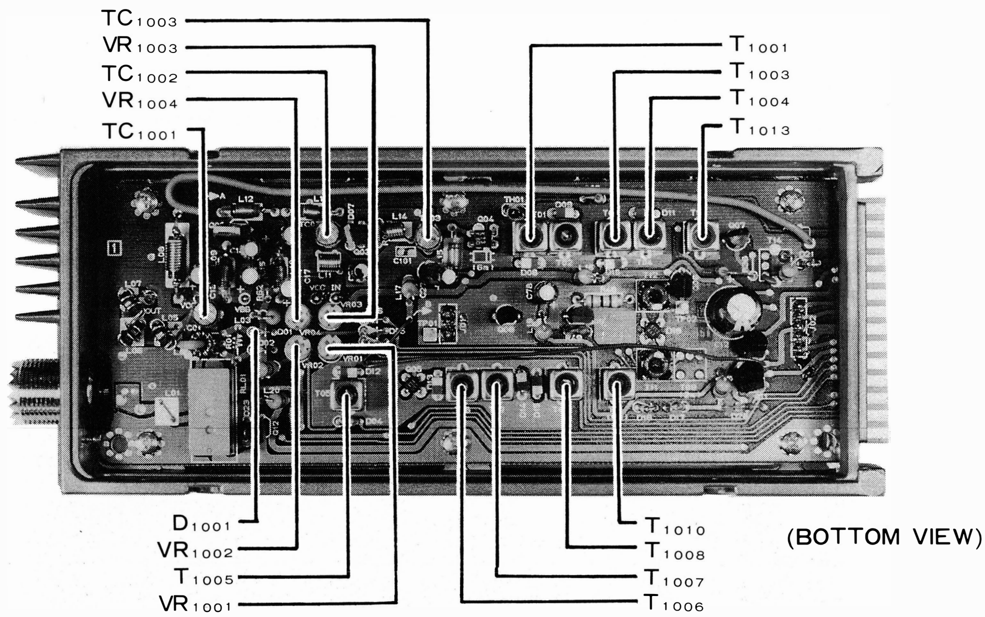
(2) 30 MHz Doubler
Tune the transceiver to 52.0 MHz. Connect the RF voltmeter to TP2001 and adjust T2007 and T2006 for maximum RF (at least 80 mVrms).

(3) Local Output Filters
Tune the transceiver to 51.5 MHz. Connect the RF voltmeter to pin 3 of J2001 and adjust T2001 through T2005 for maximum RF (at least 600 mVrms).

6m RECEIVING CONVERTER

(1) 6m Front End
Tune the transceiver to 50.5 MHz, USB mode. Inject a 60 dBu carrier at the receiving frequency to the 6m ANT jack and adjust T1013, T1008, T1007, T1006 and T1005 for maximum S-meter deflection.





FEX-767-6 Alignment Points

(2) 45 MHz Trap Coil
After the above step, retune the RF signal generator to 45.03 MHz and inject 90 dBu to the 6m ANT jack. Adjust T1010 for minimum S-meter deflection, and then repeat the previous step to realign T1008.

6M TRANSMITTING CONVERTER

Connect a 50-ohm dummy load and in-line wattmeter to the 6m ANT jack for all steps, except where indicated otherwise. Press the MOX button for all measurements.

(1) 6m Resonant Circuits
Tune the transceiver to 50.5 MHz, FM mode, and set the METER selector to ALC and the DRIVE control to the center of its range. Press the MOX button and adjust T1001 and T1004 for maximum ALC indication.

Retune to 51.8 MHz, press the MOX button and adjust T1002 and T1003 for maximum ALC indication. Now retune to 51.5 MHz, press the MOX button and adjust TC1003 and TC1002 for maximum ALC indication.

(2) 6m Directional CM Coupler Balance
Connect the DC voltmeter to the cathode of D1001 (top end), press the MOX button and adjust TC1001 for minimum voltage.

(3) 6m ALC Level
Tune to 52.0 MHz, FM mode, and set the DRIVE control fully clockwise. Press the MOX button and adjust VR1001 for 12W on the wattmeter. Now remove the dummy load and wattmeter, press the MOX button, and adjust VR1003 for 5W on the transceiver's digital wattmeter.

(4) Digital Wattmeter and SWR Meter
Replace the dummy load and wattmeter at the 6m ANT jack. In the FM mode, press the MOX button and adjust the DRIVE control for 10W on the external wattmeter. Press the RF PWR button and MOX button adjust VR1002 for the same indication on the digital display.

Now connect a 150-ohm dummy load (3 50-ohm loads in series) to the 6m ANT jack. Press the SWR button and the MOX button, and adjust VR1004 for 3.0 on the digital display.

FEX-767-2 2m BAND MODULE

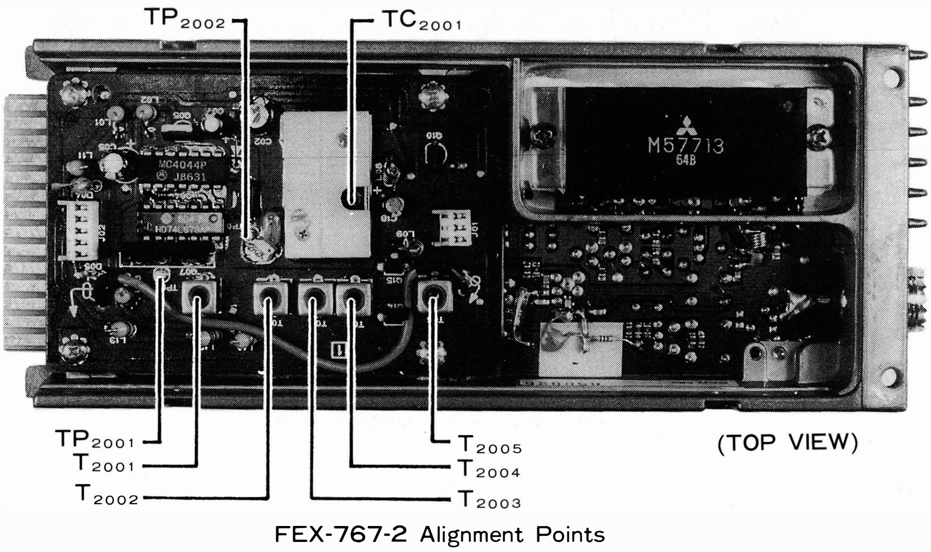
Band center for Version B is 145.0 MHz, and for Version A, 146.0 MHz. The high band edge for for Version B is 146.999 MHz, and for Version A, 147.999 MHz.

2m LOCAL UNIT

All measurements and adjustments are to be made while receiving unless otherwise stated.

(1) VCV (Varactor Control Voltage)
Tune to the high band edge, and connect the high-impedance DC voltmeter to TP2002. Adjust TC2001 for 6.5V (Version A), or 5V (Version B). Retune to 144.0 MHz and confirm 3 to 4V.

(2) 120 MHz Mixer, Loop Amplifier
Tune the transceiver to band center. Connect the oscilloscope or spectrum analyzer to TP2001 and adjust T2001 through T2005 for maximum RF (at least 250 mVrms). Caution: make



FEX-767-2 Alignment Points

sure that the signal tuned is at 120 MHz, and not a spurious mixer product.

2m RECEIVING CONVERTER

Tune the transceiver to band center, USB mode. Inject a 60 dBu carrier at the receiving frequency to the 2m ANT jack and adjust T1013, T1008, T1007, T1006 and T1005 for maximum S-meter deflection.

TRANSMITTING CONVERTER

Connect a 50-ohm dummy load and in-line wattmeter to the 2m ANT jack for all steps, except where indicated otherwise. Press the MOX button for all measurements.

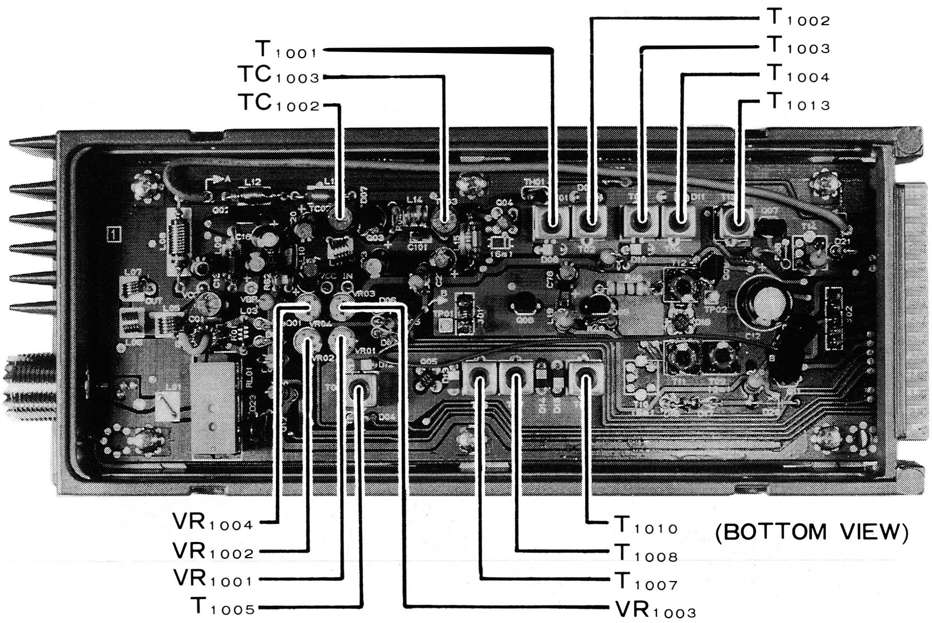
(1) 2m Resonant Circuits
Tune the transceiver to band center, FM mode. Set the METER selector to ALC and DRIVE control to the center of its range. Preset VR1001 and VR1003 to mid-range. Press the MOX button and adjust T1004, T1003, T1002 and T1001 for maximum ALC indication. Perform the following two procedures to align VR1001 and VR1003.

(2) 2m Directional CM Coupler Balance
Connect the DC voltmeter to the cathode of D1001 (top end), press the MOX button and adjust TC1001 for minimum voltage.

(3) 2m ALC Level
Tune to band center, FM mode, and set the DRIVE control fully clockwise. Press the MOX button and adjust VR1001 for 12W on the wattmeter. Now replace the 50-ohm dummy load with 150 ohms. Press the MOX button and adjust VR1003 to the point where the wattmeter indication just begins to drop.

(4) Digital Wattmeter and SWR Meter
Return the 50-ohm dummy load to the 2m ANT jack. In the FM mode, press the MOX button and adjust the DRIVE control for 10W on the external wattmeter. Press the RF PWR button and adjust VR1002 for the same indication on the digital display.

Remove the dummy load and wattmeter from the 2m ANT jack. Press the SWR button and the MOX button, and adjust VR1004 for a 8 or more on the digital display. Then replace the 50-ohm load again and confirm 1.2 or less SWR on the digital display.



FEX-767-2 Alignment Points

FEX-767-7 70cm BAND MODULE

Band center for Version B is 435.0 MHz, and for Version A, 445.0 MHz. The high band edge for for Version B is 449.999 MHz, and for Version A, 439.999 MHz. The low band edge for Version B is 430.00 MHz, and for Version A, 440.00 MHz.

70cm PLL UNIT

All measurements and adjustments are to be made while receiving unless otherwise stated.

(1) VCV (Varactor Control Voltage)
Tune to the low band edge, and connect the high-impedance DC voltmeter to TP2001. Adjust TC2001 for 2.0V. Retune to the high band edge and confirm 4.5 to 5.5 V.

(2) Local Bandpass
Tune to band center. Connect the RF voltmeter to pin 2 of J01 and adjust both sides of CV2001 and CV2002 for maximum deflection (at least 280 mVrms).

(3) 410 MHz Loop Amplifier
Connect the RF voltmeter to the top end of R2017 and adjust both sides of CV2003 and CV2004 for maximum RF voltage. Now turn the cores 180° clockwise from the maximum position, and confirm at least 80 mVrms remains.

70cm RECEIVING CONVERTER

Tune the transceiver to band center, USB mode. Inject a 60 dBu carrier at the receiving frequency to the 70cm ANT jack and adjust TC1001 and TC1003 for maximum S-meter deflection.

Now tune the transceiver and signal generator to the high band edge and adjust CV1003(b) and CV1004(b) for maximum S-meter deflection.

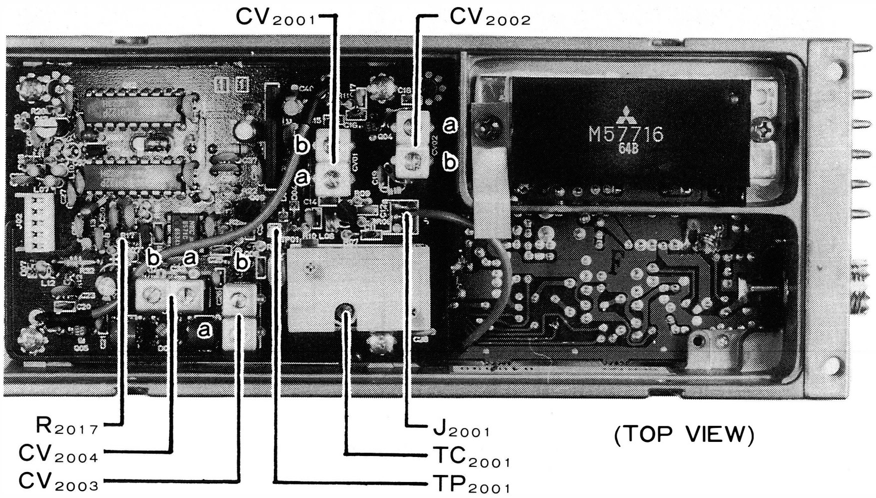
Retune to 500 kHz above the low band edge and adjust CV1003(a) and CV1004(a) for maximum S-meter deflection.

Repeat adjustment of the helical resonators several times.

70cm TRANSMITTING CONVERTER

Connect a 50-ohm dummy load and in-line wattmeter to the 70cm ANT jack for all steps, except where indicated otherwise. Press the MOX button for all measurements.

(1) 70cm Resonant Circuits
Tune the transceiver to band center, FM mode, and set the METER selector to ALC and the DRIVE control to the center of its range. Preset VR1002 fully counterclockwise, and VR1004 to mid-range.



FEX-767-7 Alignment Points

Press the MOX button and adjust both sides of CV1002 and CV1001, and then TC1002 and TC1001 for maximum ALC indication.

Retune to the low band edge, press the MOX button and readjust CV1002(b) for maximum ALC. Then retune to the high band edge, press the MOX button and readjust CV1002(a) for maximum ALC. Repeat at the low and high band edges several times.

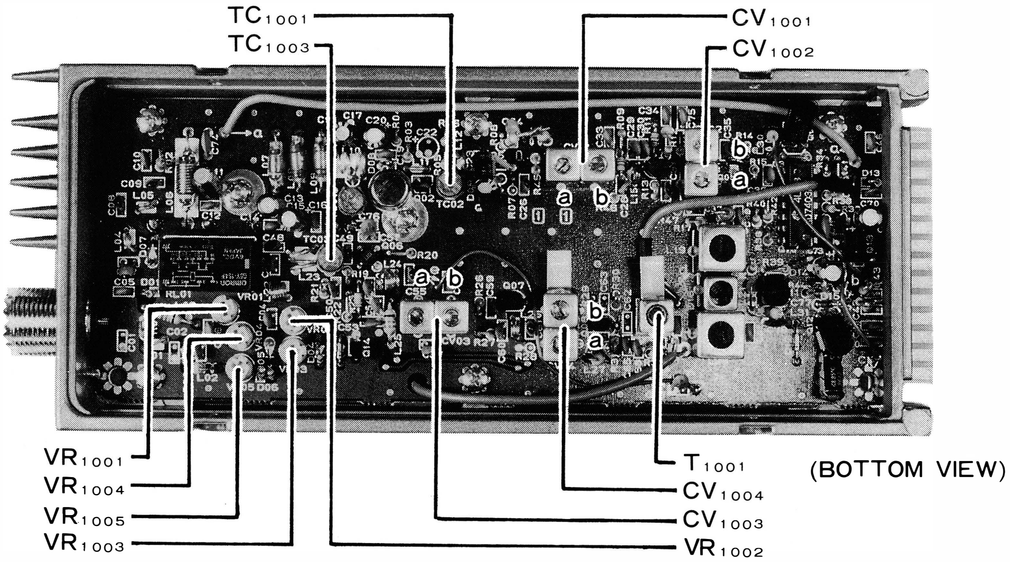
Perform the following two procedures to align VR1002 and VR1004.

(2) 70cm Directional CM Coupler Balance
Connect the DC voltmeter to the cathode of D1002 (top end), press the MOX button and adjust VR1001 for minimum voltage (less than 0.5V).

(3) 70cm ALC Level
Tune to band center, FM mode, and set the DRIVE control fully clockwise. Press the MOX button and adjust VR1004 for 12W on the wattmeter. Now replace the 50-ohm dummy load with 150 ohms. Press the MOX button and adjust VR1002 to the point where the wattmeter indication just begins to drop.

(4) Digital Wattmeter and SWR Meter
Return the 50-ohm dummy load to the 70cm ANT jack. In the FM mode, press the MOX button and adjust the DRIVE control for 10W on the external wattmeter. Press the RF PWR button and adjust VR1005 for the same indication on the digital display.

Connect the 150-ohm dummy load in place of the 50-ohm load to the 70cm ANT jack. Press the SWR button and the MOX button, and adjust VR1003 for 3.0 on the digital display.

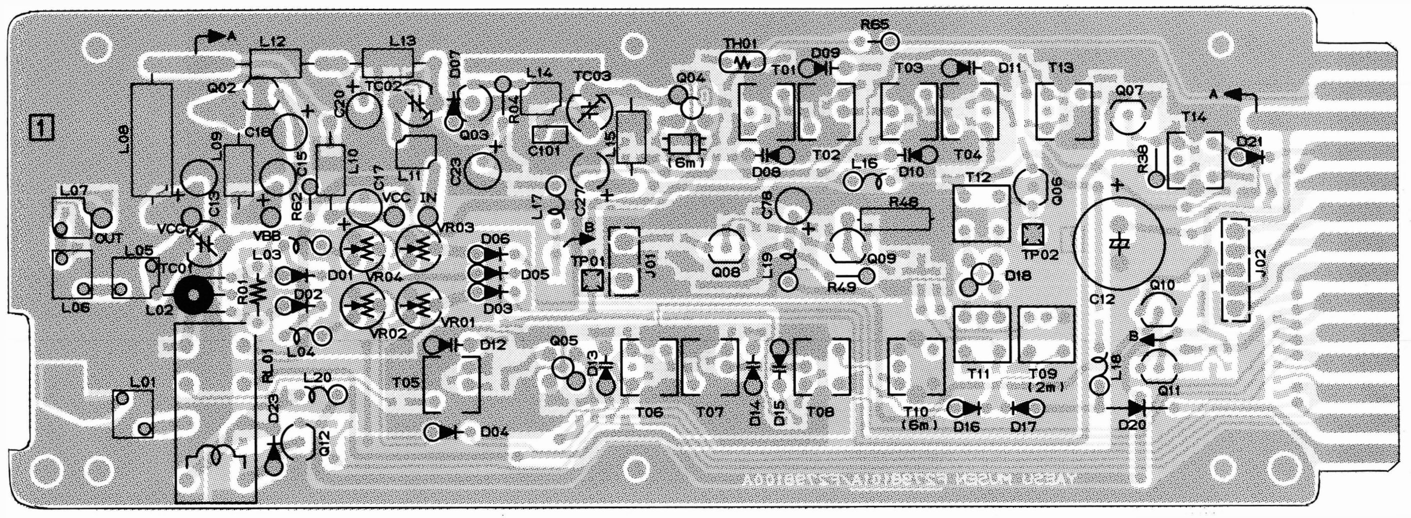


FEX-767-7 Alignment Points

MEMO

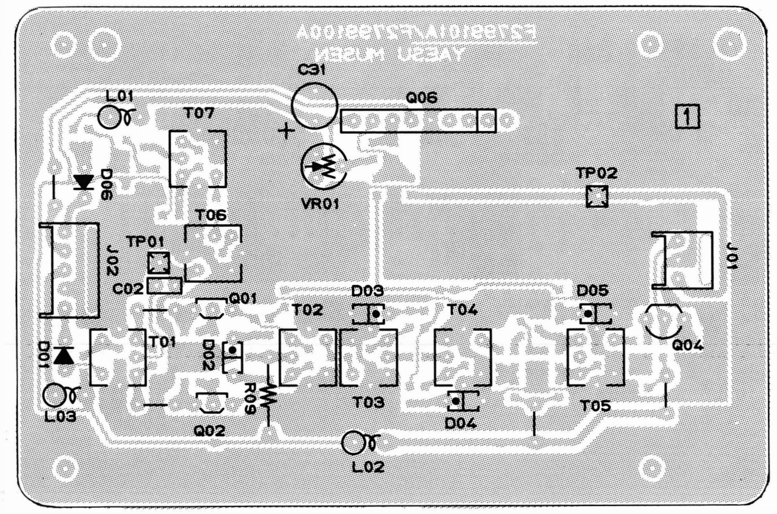
FEX-767-6 PARTS LAYOUT

MAIN UNIT

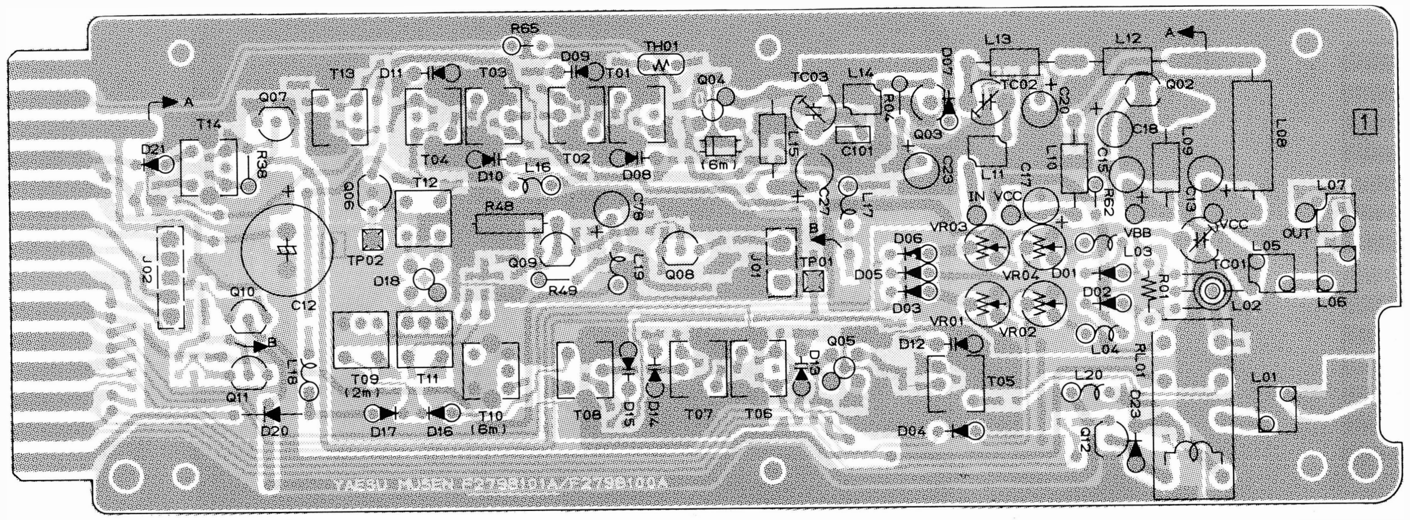


(Obverse view of "component" side)

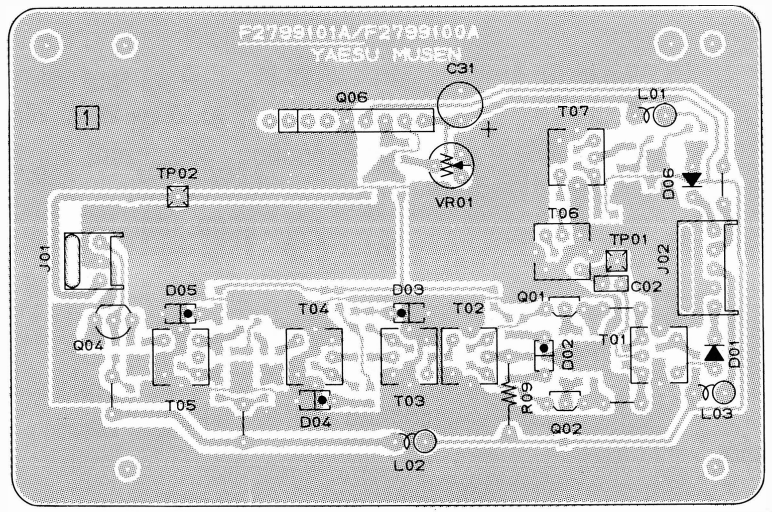
LOCAL UNIT



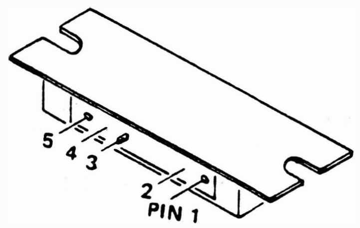
(Obverse view of "component" side)



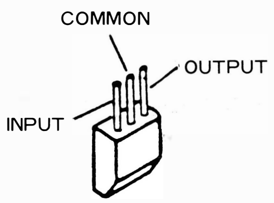
(Reverse view of "component" side)



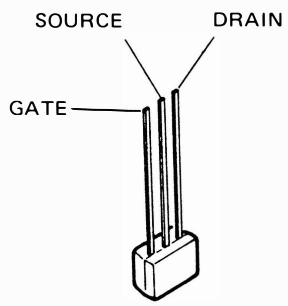
(Reverse view of "component" side)



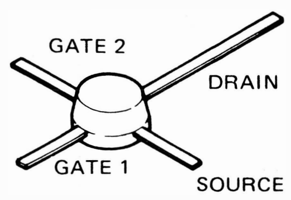
M57735 (Q1001)



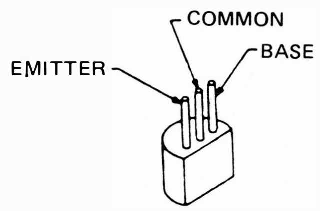
μPC78L08 (Q1002)



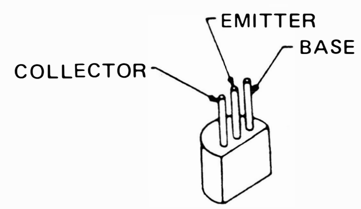
2SK241Y (Q2001,2002)



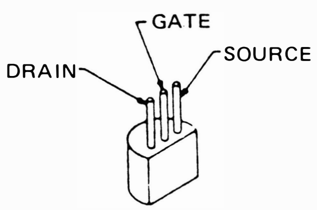
3SK74Y (Q1005)



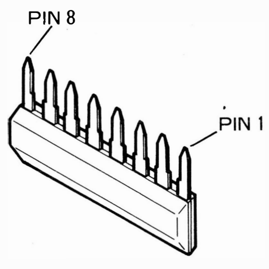
2SC2053 (Q1003)



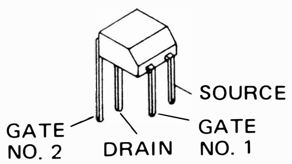
2SC2026 (Q1008)
2SC2407A (Q1009)



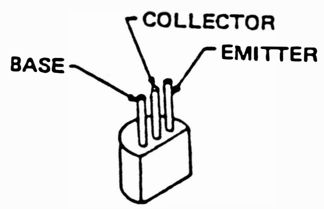
2SK125 (Q1006)



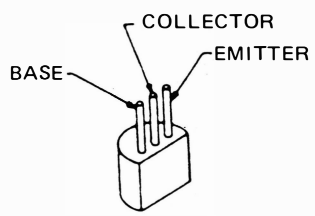
M5218L (Q2006)



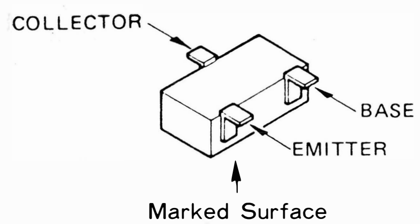
3SK73Y (Q1004)



2SA684 (Q1010,Q1011)



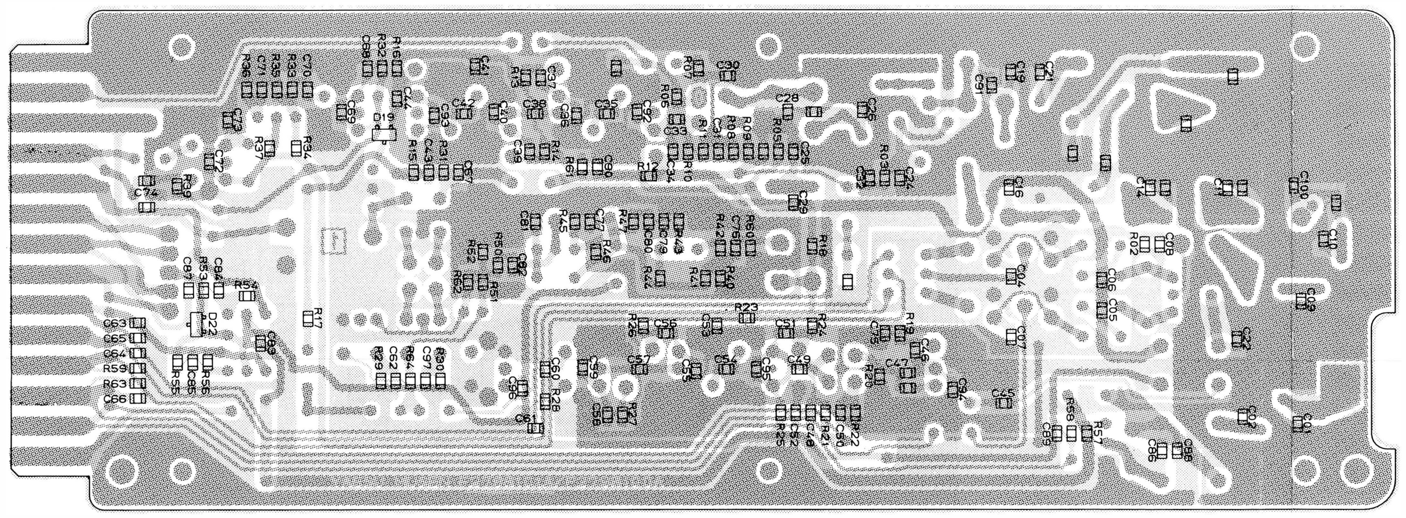
2SC535B (Q1007)
2SC19230 (Q2004)
2SC2001 (Q1012)



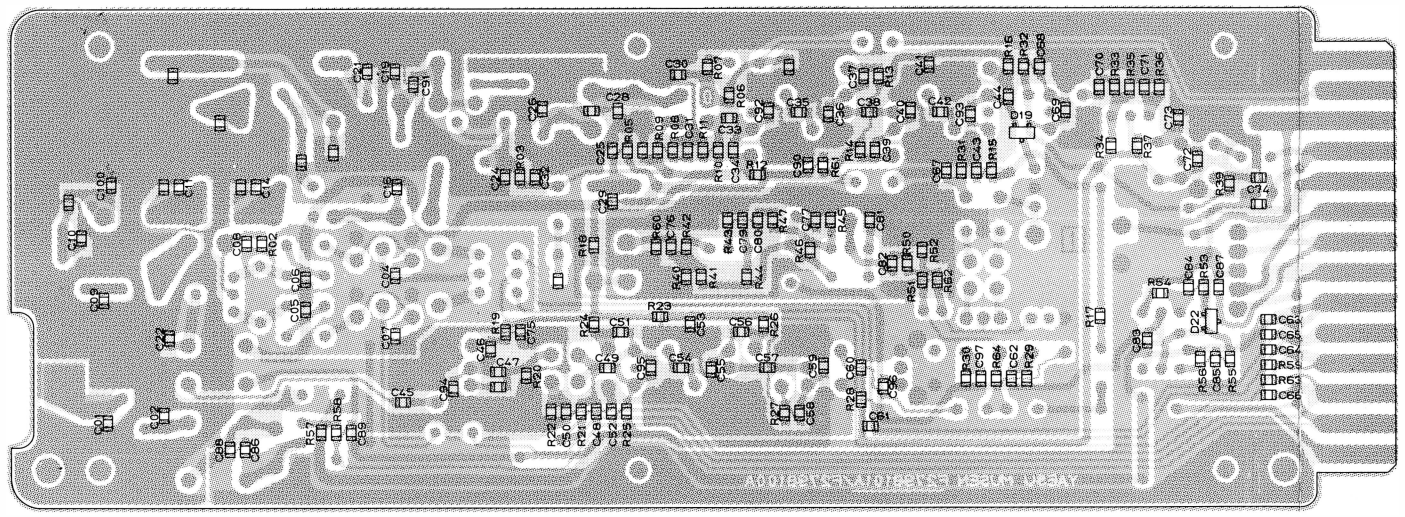
2SC26200B (Q2003)
2SC1623 (Q2005)

FEX-767-6 PARTS LAYOUT

MAIN UNIT

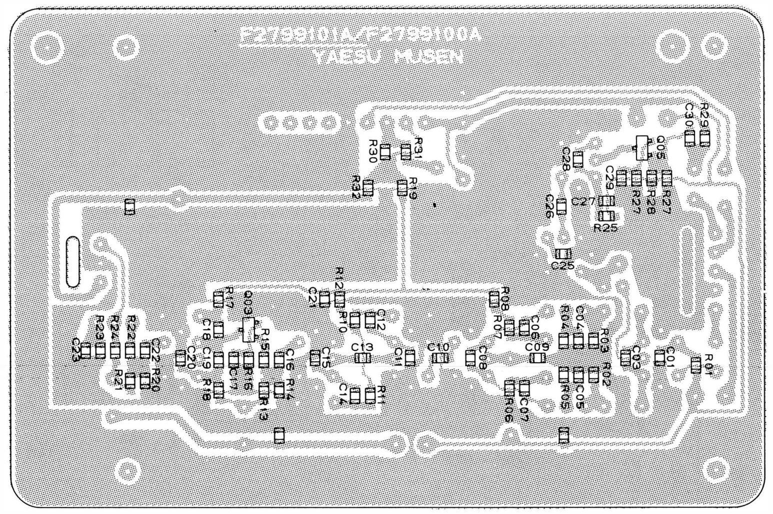


(Obverse view of "chip-only" side)

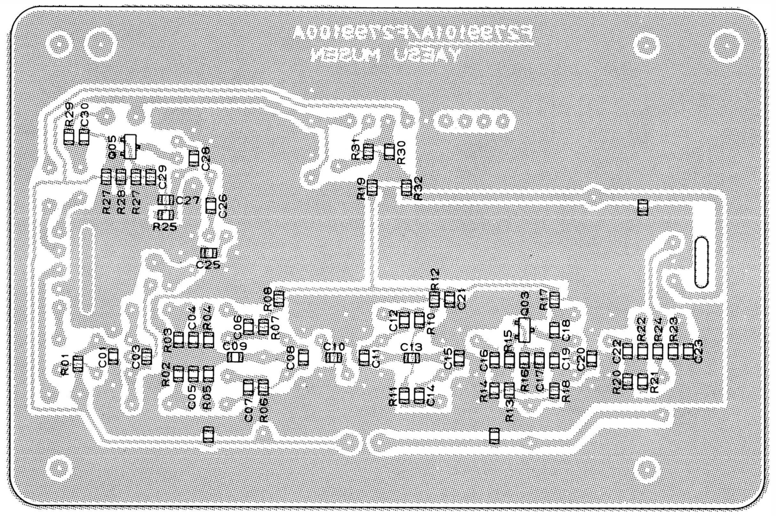


(Reverse view of "chip-only" side)

LOCAL UNIT



(Obverse view of "chip-only" side)



(Reverse view of "chip-only" side)

FEX-767-6 VOLTAGE CHART

(DC VOLTS)

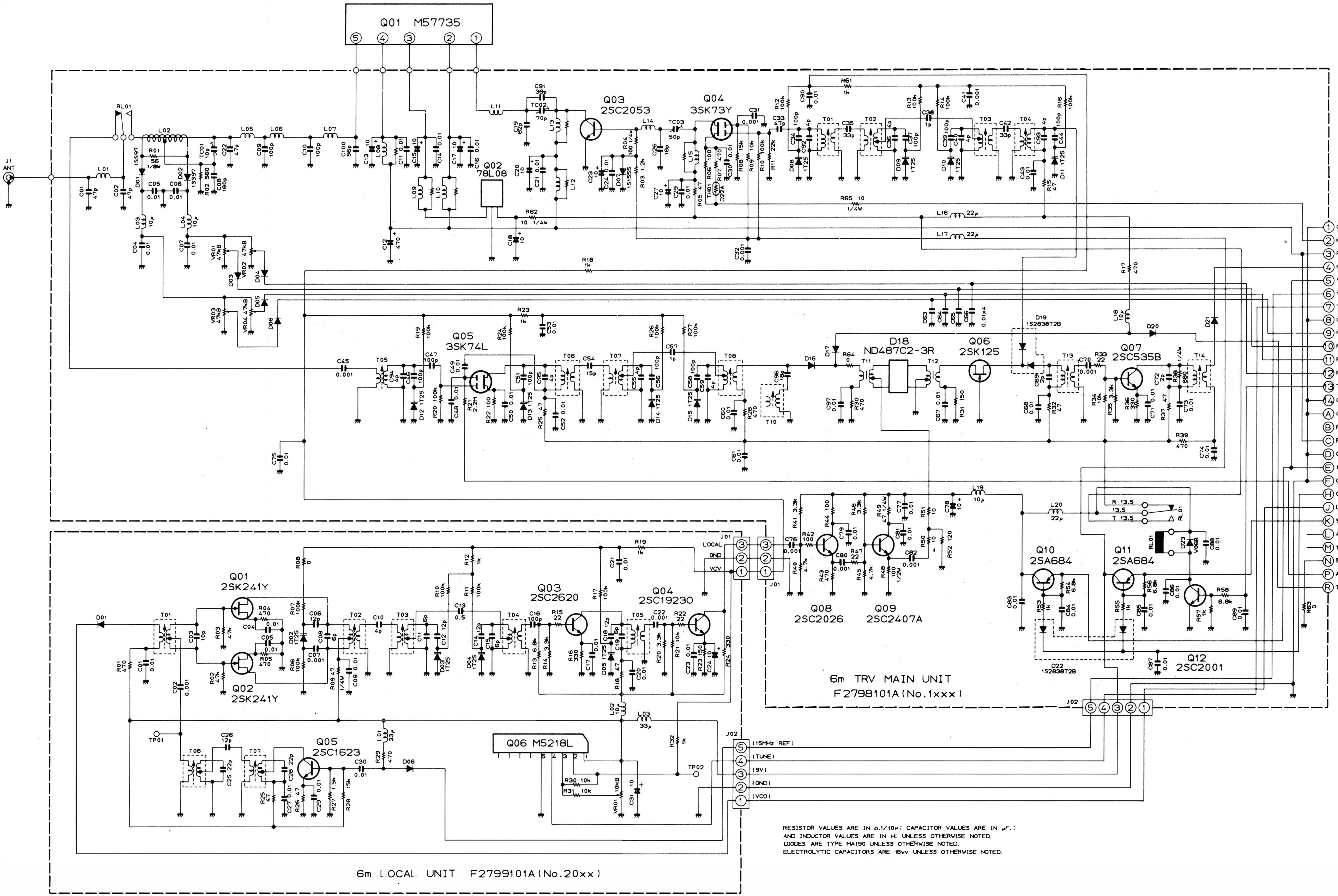
	E	(S)	C	(D)	B	(G_1)	(G_2)		REMARKS
	R	T	R	T	R	T	R	T	
Q1002	IN 0.4	11.3	GND 0	0	OUT 0	8.0			MODE USB
Q1003	0	0	13.3	13.3	0.7	0.7			
Q1004	0.4	1.1	0	12.2	1.6	1.6	2.5	2.5	
Q1005	1.3	0	12.4	0	1.4	0	2.5	2.5	
Q1006	1.6	1.6	11.5	11.3	0	0			
Q1007	2.3	0	13.0	0	3.1	0			
Q1008	6.5	6.5	11.6	11.6	7.2	7.2			
Q1009	5.5	5.5	10.5	10.5	6.2	6.2			
Q1010	13.1	13.1	13.0	13.0	12.3	12.3			
Q1011	9.0	9.0	9.0	9.0	8.3	8.3			
Q1012	0	0	13.0	0	0	0.7			
Q2001	0.6		8.9		0				
Q2002	0.6		8.9		0				
Q2003	2.1		8.7		2.8				
Q2004	2.1		6.4		2.8				
Q2005	1.4		8.6		2.1				

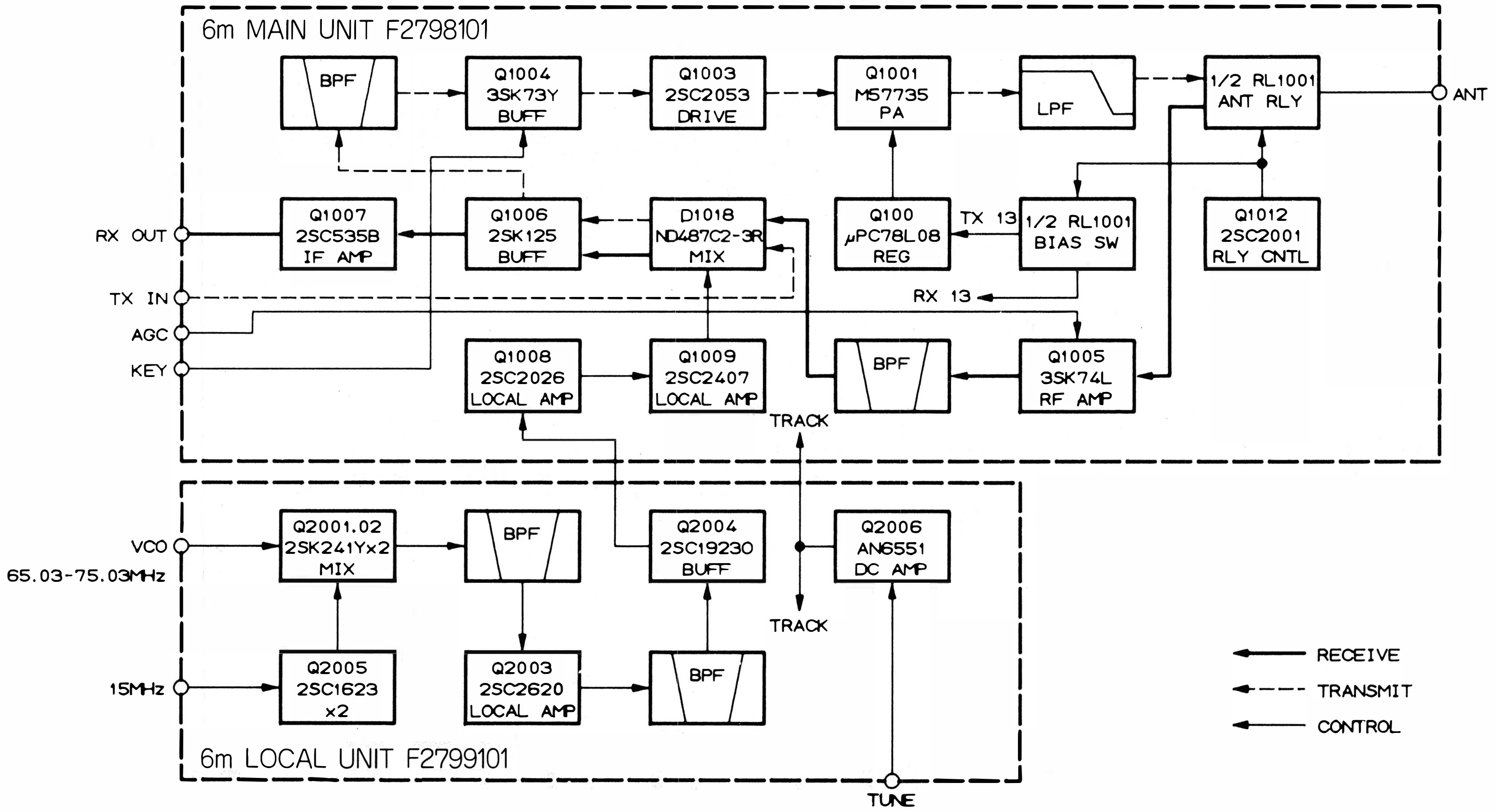
FEX-767-6 IC VOLTAGE CHART

(DC VOLTS)

PIN No.		1	2	3	4	5	6	7	8	REMARKS
Q1001	RX	—	13.3	0	13.3	—				MODE USB
	TX	—	13.3	8.0	13.3	—				
Q2006		—	—	—	0	—	—	—	9.0	

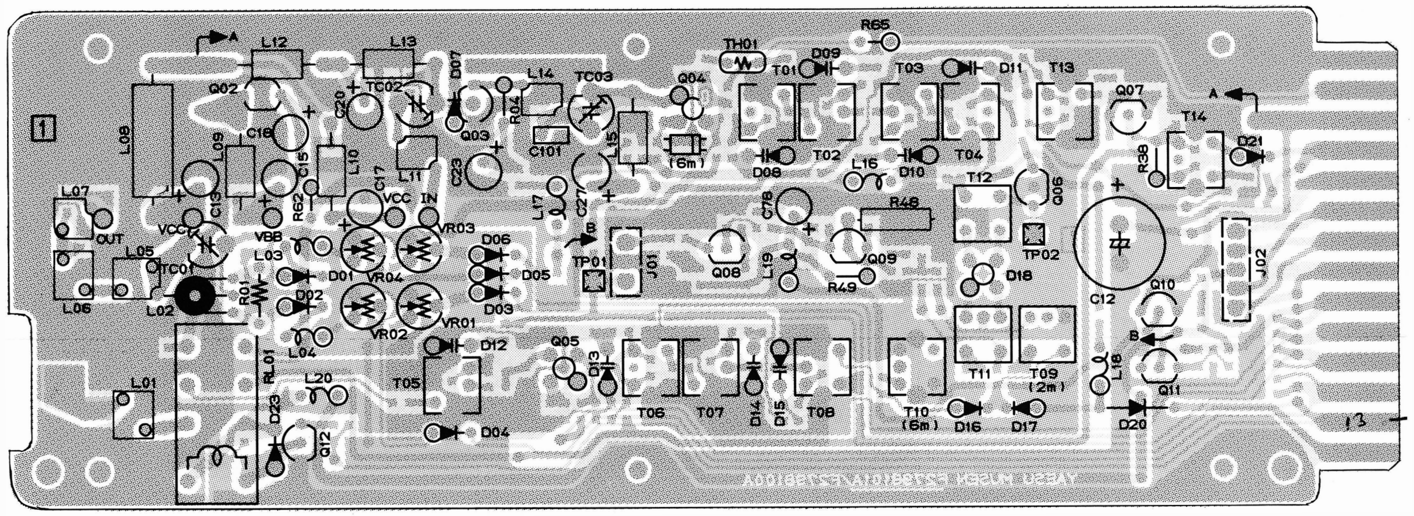
FEX-767-6 CIRCUIT DIAGRAM



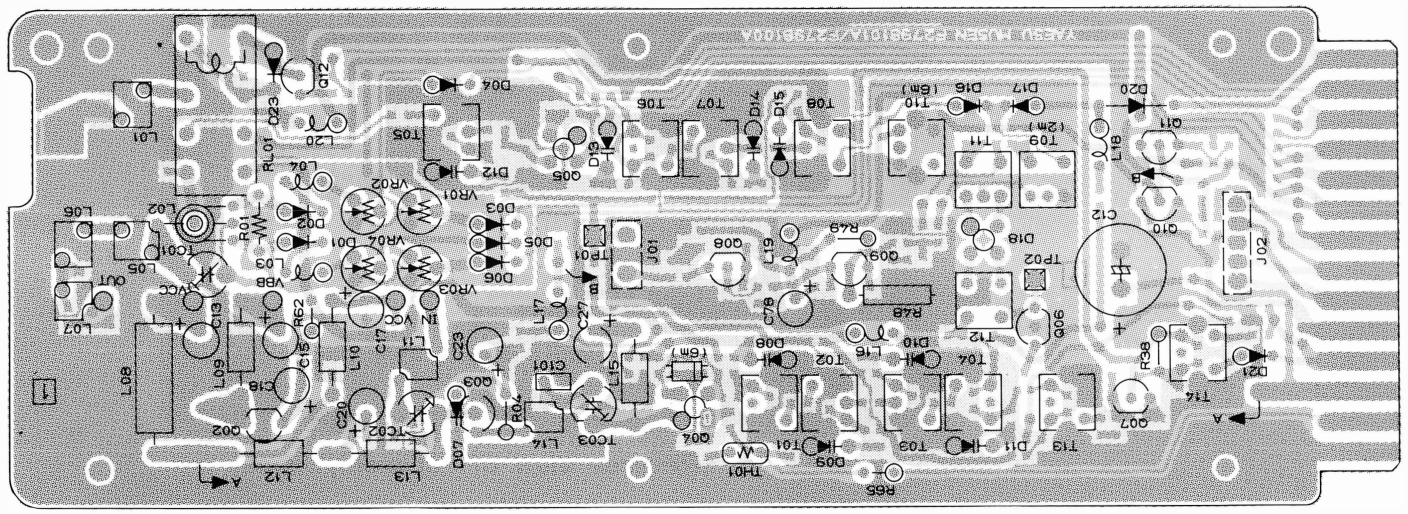

6m MAIN UNIT F2798101
BPF
Q1004 3SK73Y BUFF
Q1003 2SC2053 DRIVE
Q1001 M57735 PA
LPF
1/2 RL1001 ANT RLY
ANT
RX OUT
Q1007 2SC535B IF AMP
Q1006 2SK125 BUFF
D1018 ND487C2-3R MIX
Q100 μPC78L08 REG
TX 13
1/2 RL1001 BIAS SW
Q1012 2SC2001 RLY CNTL
TX IN
RX 13
AGC
KEY
Q1008 2SC2026 LOCAL AMP
Q1009 2SC2407 LOCAL AMP
BPF
Q1005 3SK74L RF AMP
TRACK
VCO
65.03-75.03MHz
Q2001.02 2SK241Yx2 MIX
BPF
Q2004 2SC19230 BUFF
Q2006 AN6551 DC AMP
TRACK
15MHz
Q2005 2SC1623 x2
Q2003 2SC2620 LOCAL AMP
BPF
6m LOCAL UNIT F2799101
TUNE
RECEIVE
TRANSMIT
CONTROL

FEX-767-2 PARTS LAYOUT

MAIN UNIT

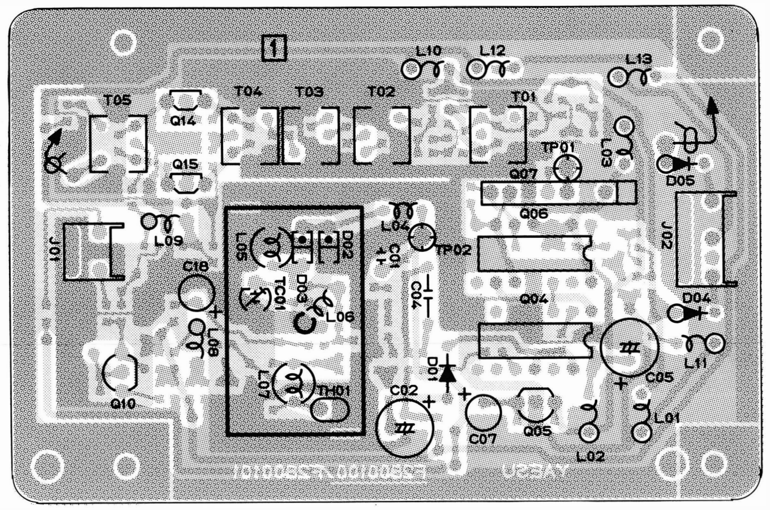


(Obverse view of "component" side)

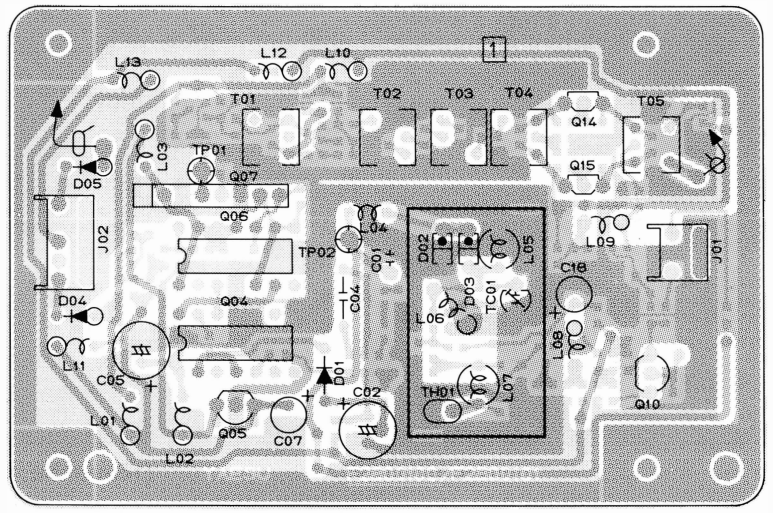


(Reverse view of "component" side)

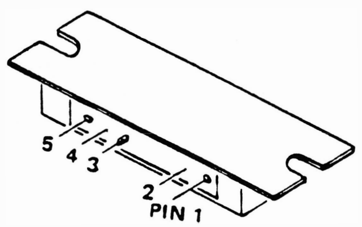
PLL LOCAL UNIT



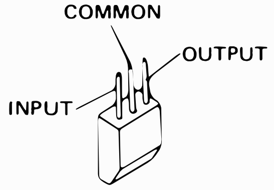
(Obverse view of "component" side)



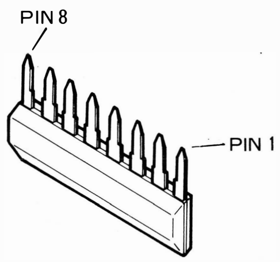
(Reverse view of "component" side)



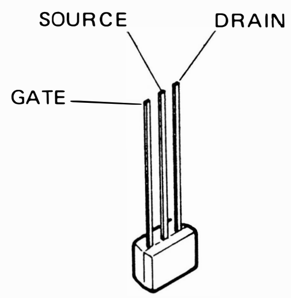
M57713 (Q1001)



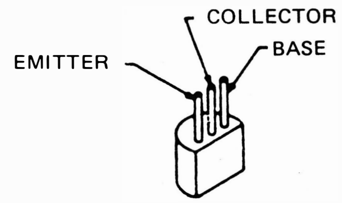
μPC78L05 (Q2005)



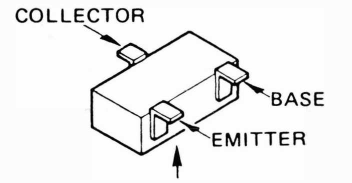
M54455L (Q2007)



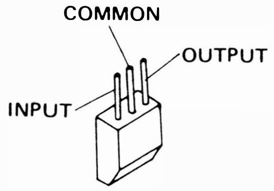
2SK241Y (Q2014,2015)



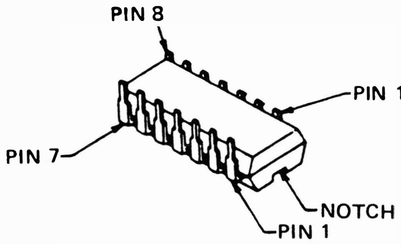
2SA684 (Q1010,1011)
2SC535B (Q1007)
2SC2001 (Q1012)
2SC2407A (Q1009)



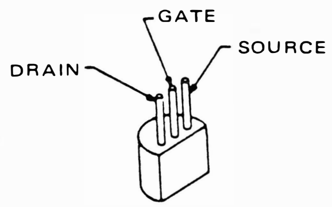
2SC2620QB (Q2012,2013,2016)
2SC2712GR (Q2001-2003)



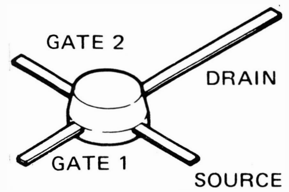
μPC78L08 (Q1002)



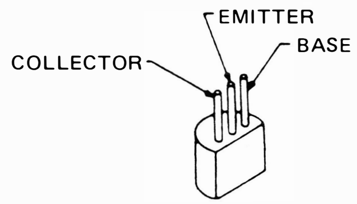
MC4044P (Q2004)
SN74LS73N (Q2006)



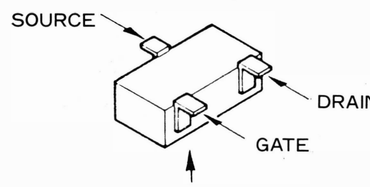
2SK125 (Q1006)



3SK74Y (Q1005)
3SK82 (Q1004)



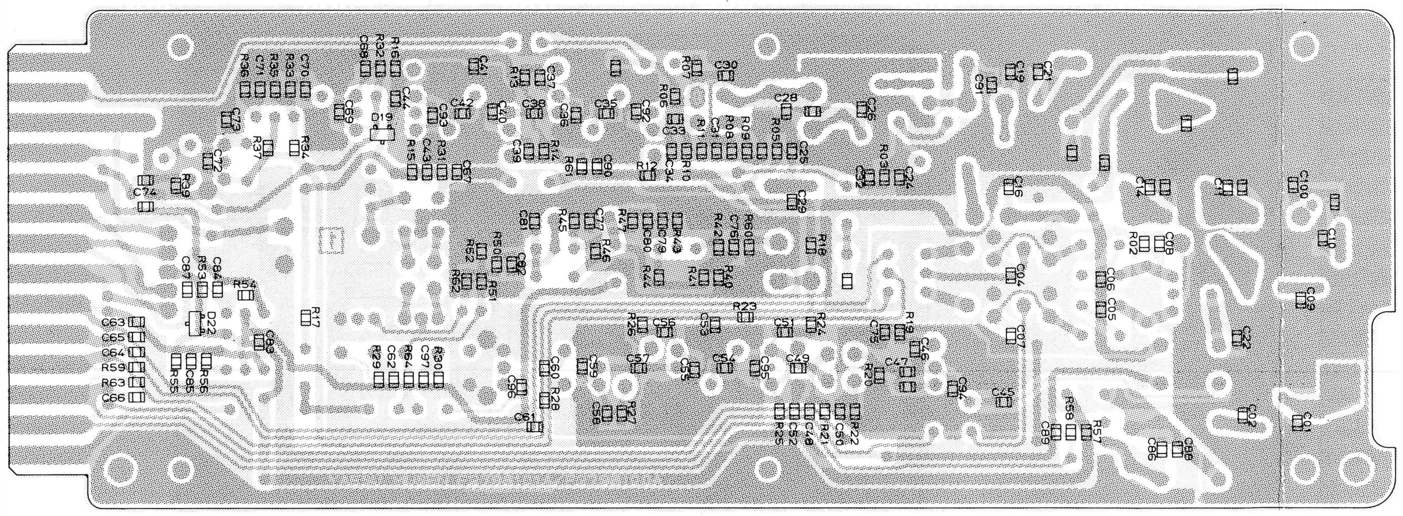
2SC2026 (Q1008)
2SC2538 (Q1003)



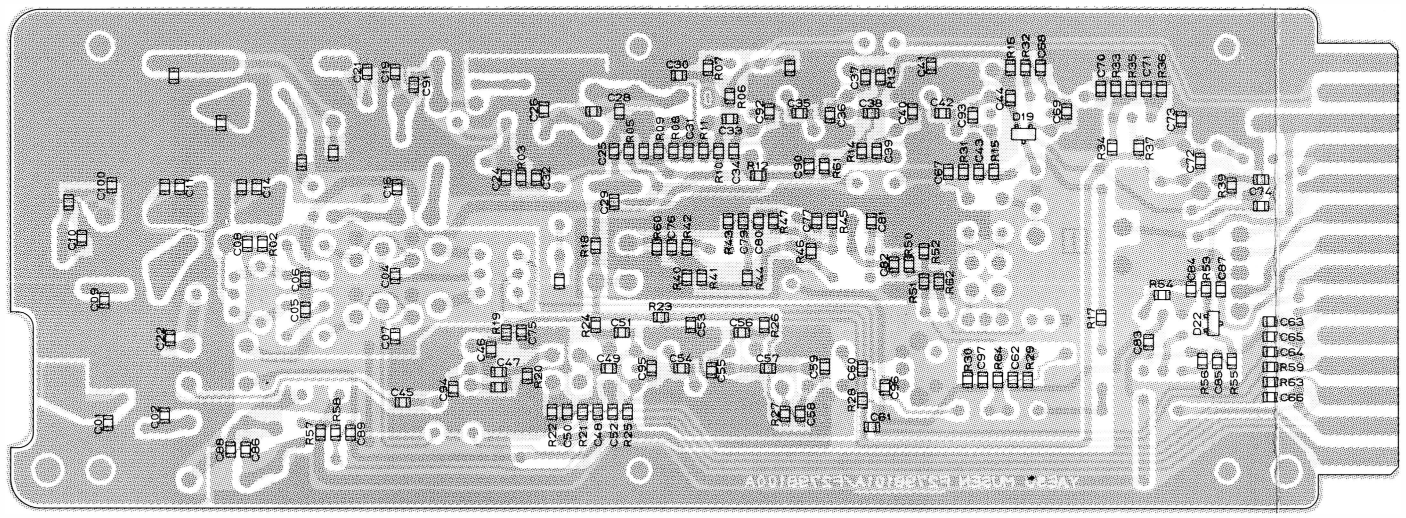
2SK302Y (Q2008,2009,2011)

FEX-767-2 PARTS LAYOUT

MAIN UNIT

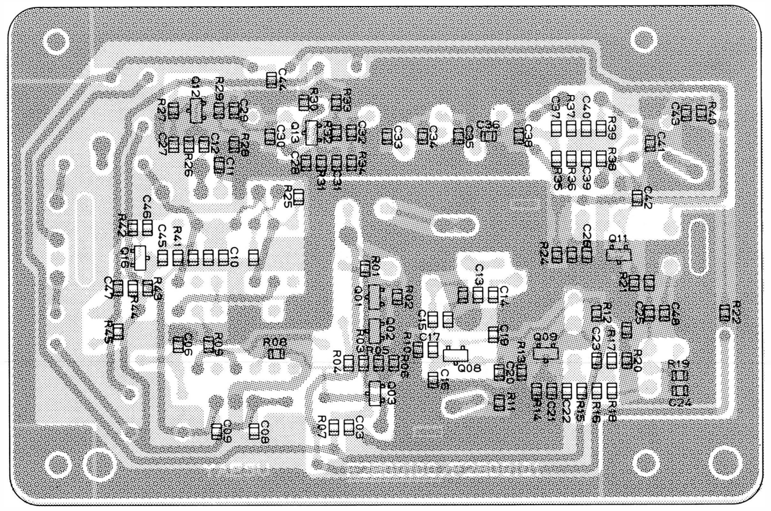


(Obverse view of "chip-only" side)

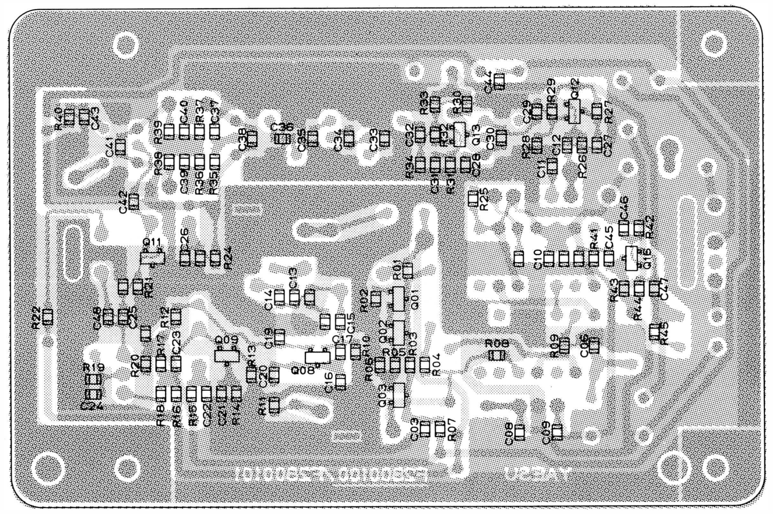


(Reverse view of "chip-only" side)

PLL LOCAL UNIT



(Obverse view of "chip-only" side)



(Reverse view of "chip-only" side)

FEX-767-2 VOLTAGE CHART

(DC VOLTS)

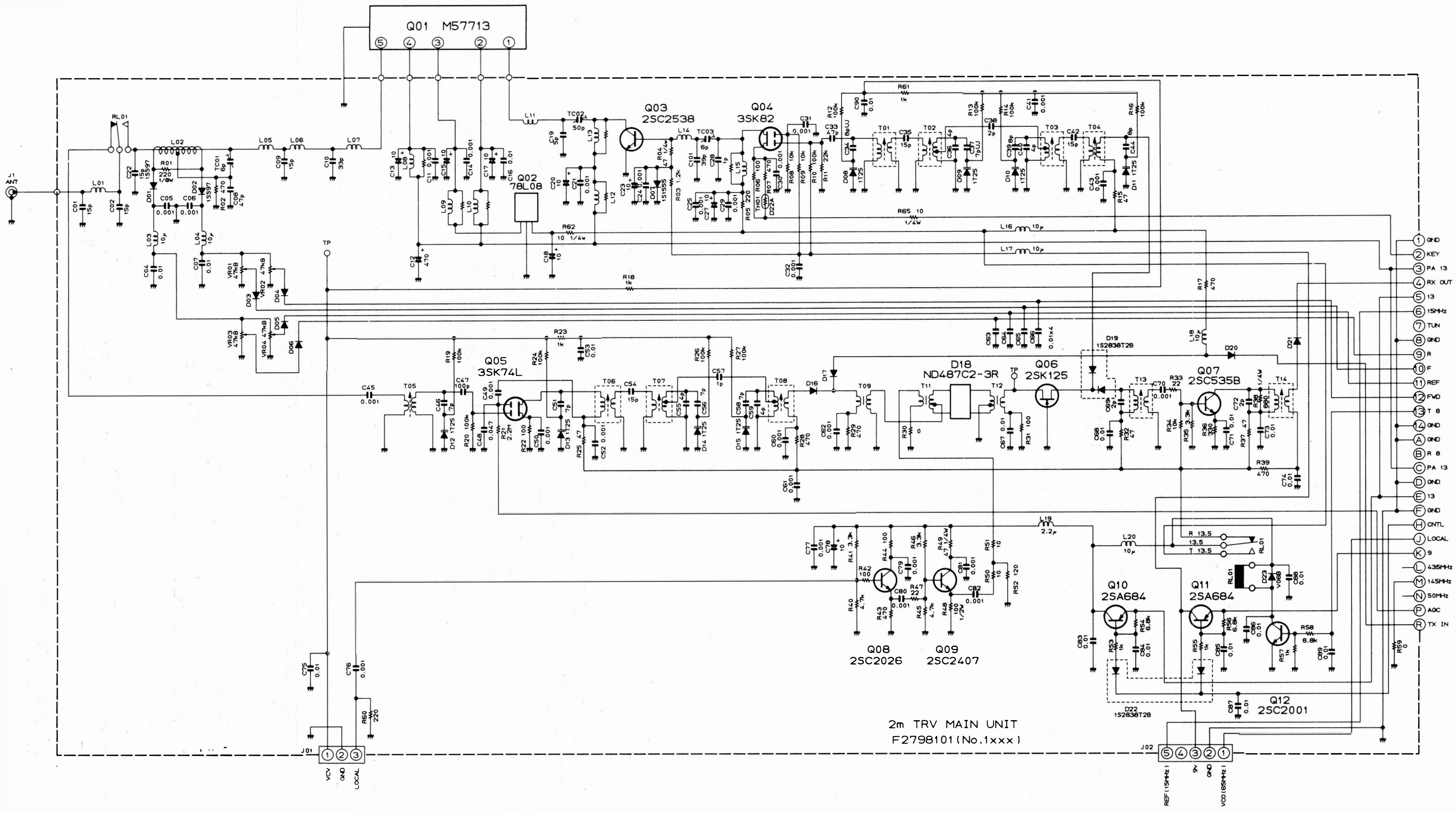
	E	(S)	C	(D)	B	(G₁)	(G₂)		REMARKS
	R	T	R	T	R	T	R	T	
Q1002	IN 0.4	11.8	GND 0	0	OUT 0	8.0			MODE USB
Q1003	0	0	13.3	13.3	0.7	0.7			
Q1004	0.4	1.2	0	10.0	1.6	1.6	4.5	4.5	
Q1005	1.3	0	12.4	0	1.5	0	2.5	2.5	
Q1006	1.6	1.6	11.5	11.3	0	0			
Q1007	2.3	0	13.0	0	3.1	0			
Q1008	6.5	6.5	11.6	11.6	7.2	7.2			
Q1009	5.5	5.5	10.5	10.5	6.2	6.2			
Q1010	13.1	13.1	13.0	13.0	12.3	12.3			
Q1011	9.0	9.0	9.0	9.0	8.3	8.3			
Q1012	0	0	13.0	0	0	0.7			
Q2003	—		8.1		—				
Q2008	0.3		8.4		0				
Q2009	0.2		8.6		0				
Q2010	1.4		5.6		1.9				
Q2011	0		8.6		0				
Q2012	2.7		8.5		3.4				
Q2013	1.3		8.5		2.0				
Q2014	0.6		8.7		0				
Q2015	0.6		8.7		0				

FEX-767-2 IC VOLTAGE CHART

(DC VOLTS)

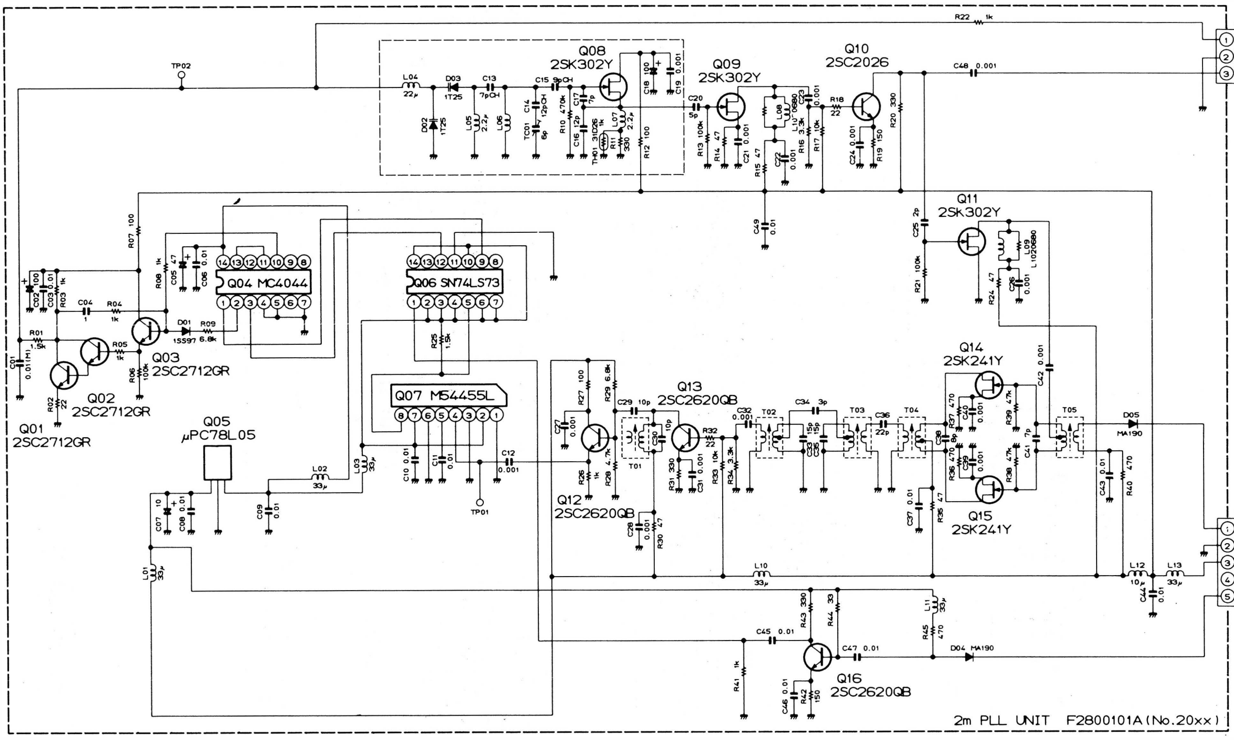
PIN No.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	REMARKS
Q1001	RX	—	13.3	0	13.3	—										MODE USB
	TX	—	13.3	8.0	13.3	—										
Q2004		—	—	—	0	0	—	0	—	—	—	—	—	—	5.0	
Q2006		—	—	—	—	—	—	—	—	—	—	0	—	—	5.0	
Q2007		0	—	0	—	0	—	5.0								

FEX-767-2 CIRCUIT DIAGRAM

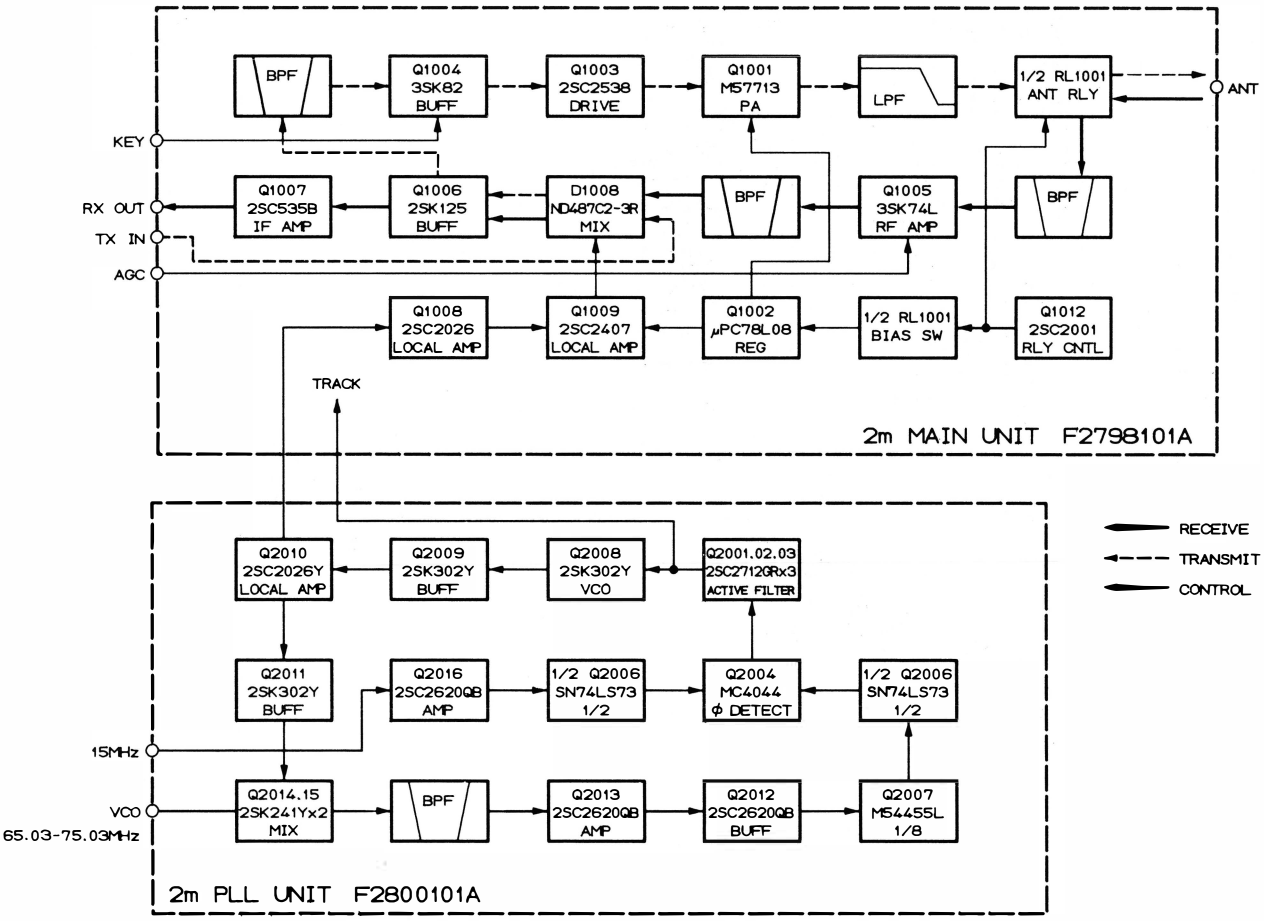


RESISTOR VALUES ARE IN Ω.1/10w: CAPACITOR VALUES ARE IN μF.:
AND INDUCTOR VALUES ARE IN H: UNLESS OTHERWISE NOTED.
DIODES ARE TYPE MA190 UNLESS OTHERWISE NOTED
ELECTROLYTIC CAPACITORS ARE 16wv UNLESS OTHERWISE NOTED.

FEX-767-2 CIRCUIT DIAGRAM

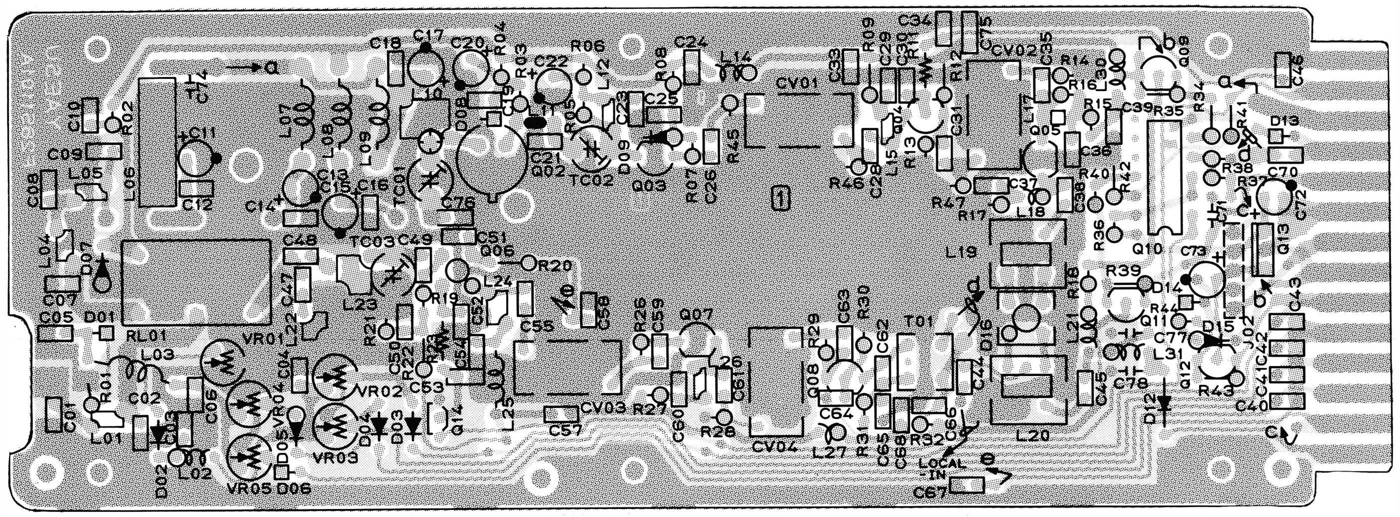


RESISTOR VALUES ARE IN Ω,1/4W; CAPACITOR VALUES ARE IN μF;
AND INDUCTOR VALUES ARE IN H; UNLESS OTHERWISE NOTED.
(M) CAPACITORS ARE POLYESTER FILM,50WV.



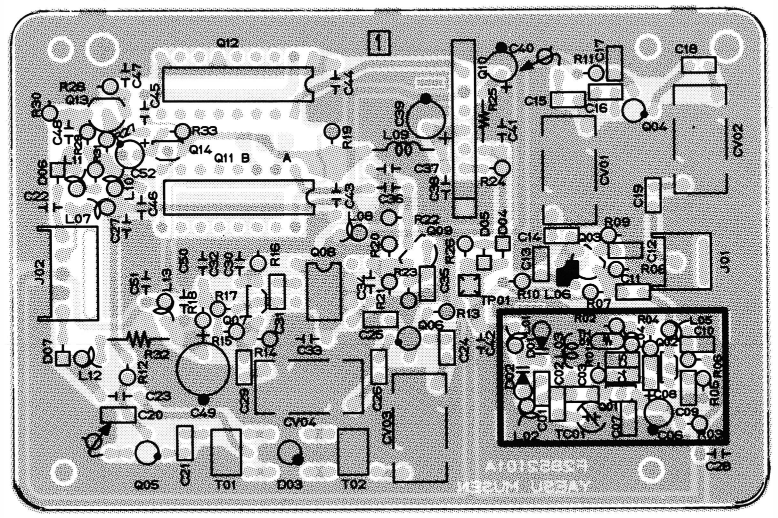
FEX-767-7 PARTS LAYOUT

MAIN UNIT

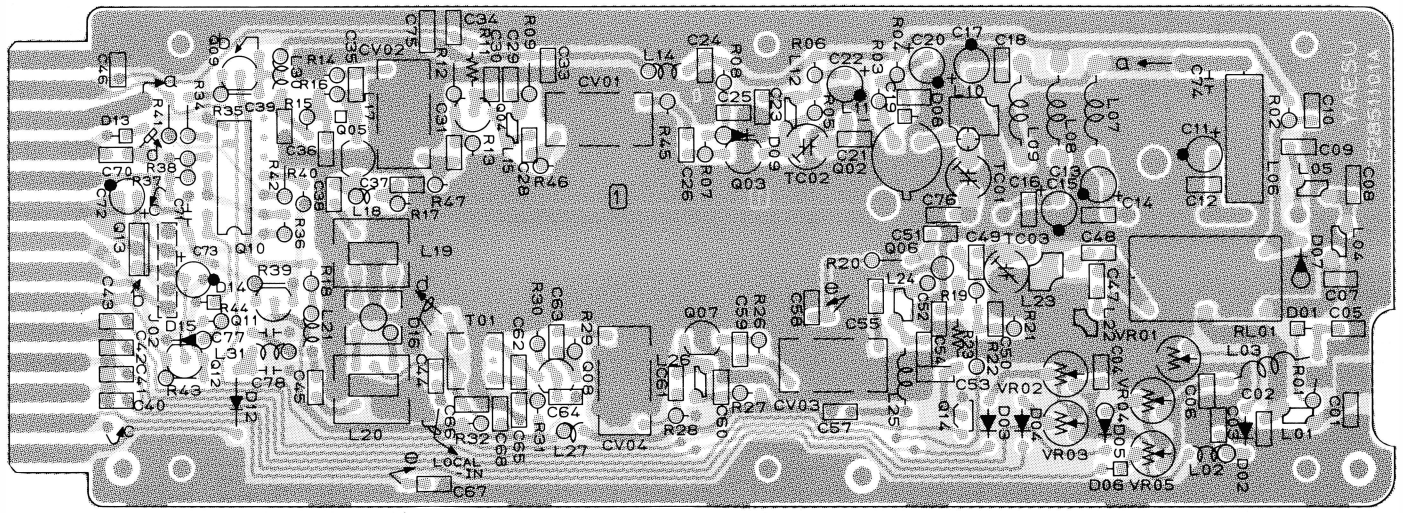


(Viewed from Component side)

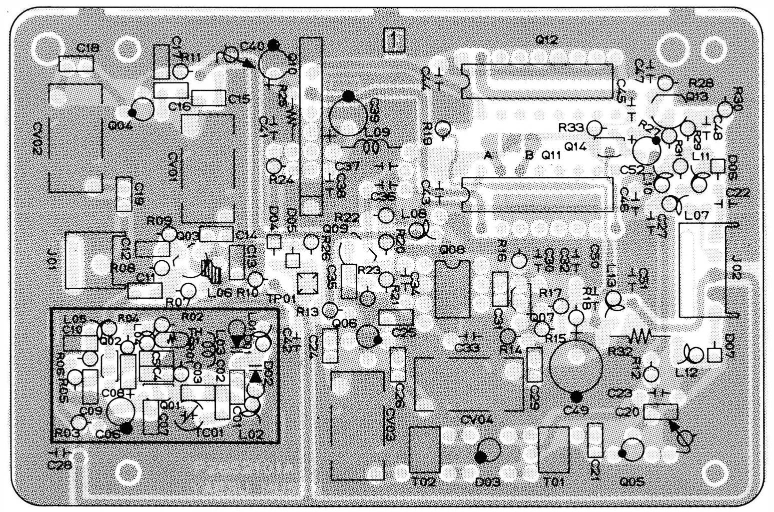
PLL LOCAL UNIT



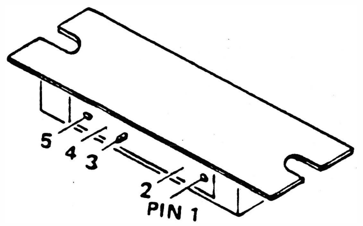
(Viewed from Component side)



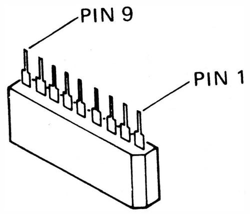
(Viewed from Solder side)



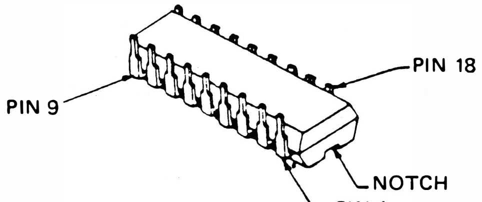
(Viewed from Solder side)



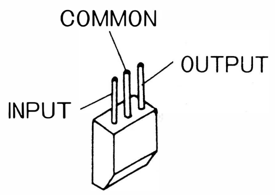
M57716 (Q1001)



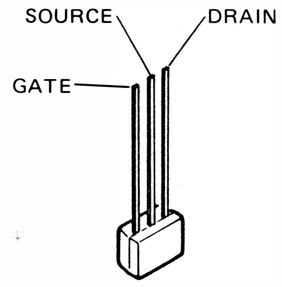
TC5081AP (Q2010)



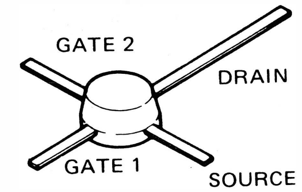
TC9122P (Q2011,2012)



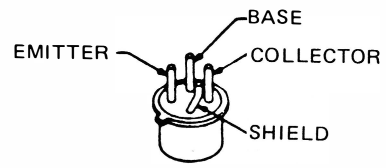
μPC78L05 (Q1013)



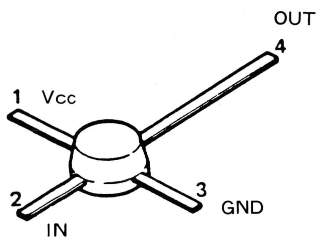
2SK241Y (Q1008)



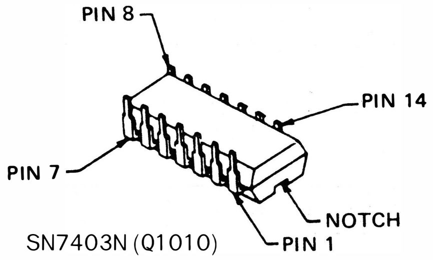
3SK121GR (Q1006)



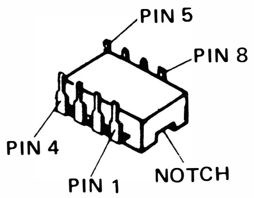
2SC1426 (Q1002)



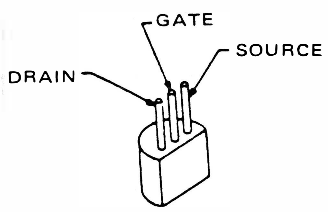
μPC1651G (Q2004-2006)



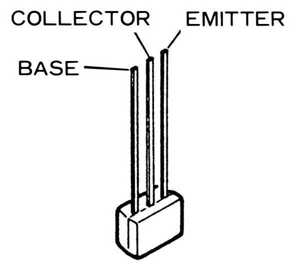
SN7403N (Q1010)



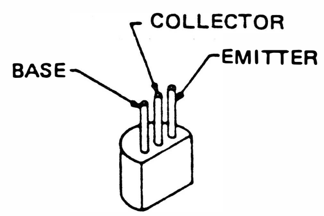
μPB571C (Q2008)



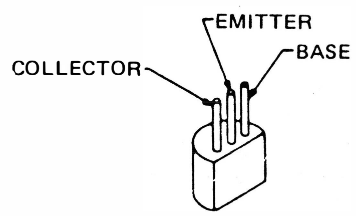
2SK125 (Q1005,1007)



BA1L4L (Q1014)



2SA684 (Q1009,1011,1012)
2SC945P (Q2009,2013)
2SC3354T (Q2007)



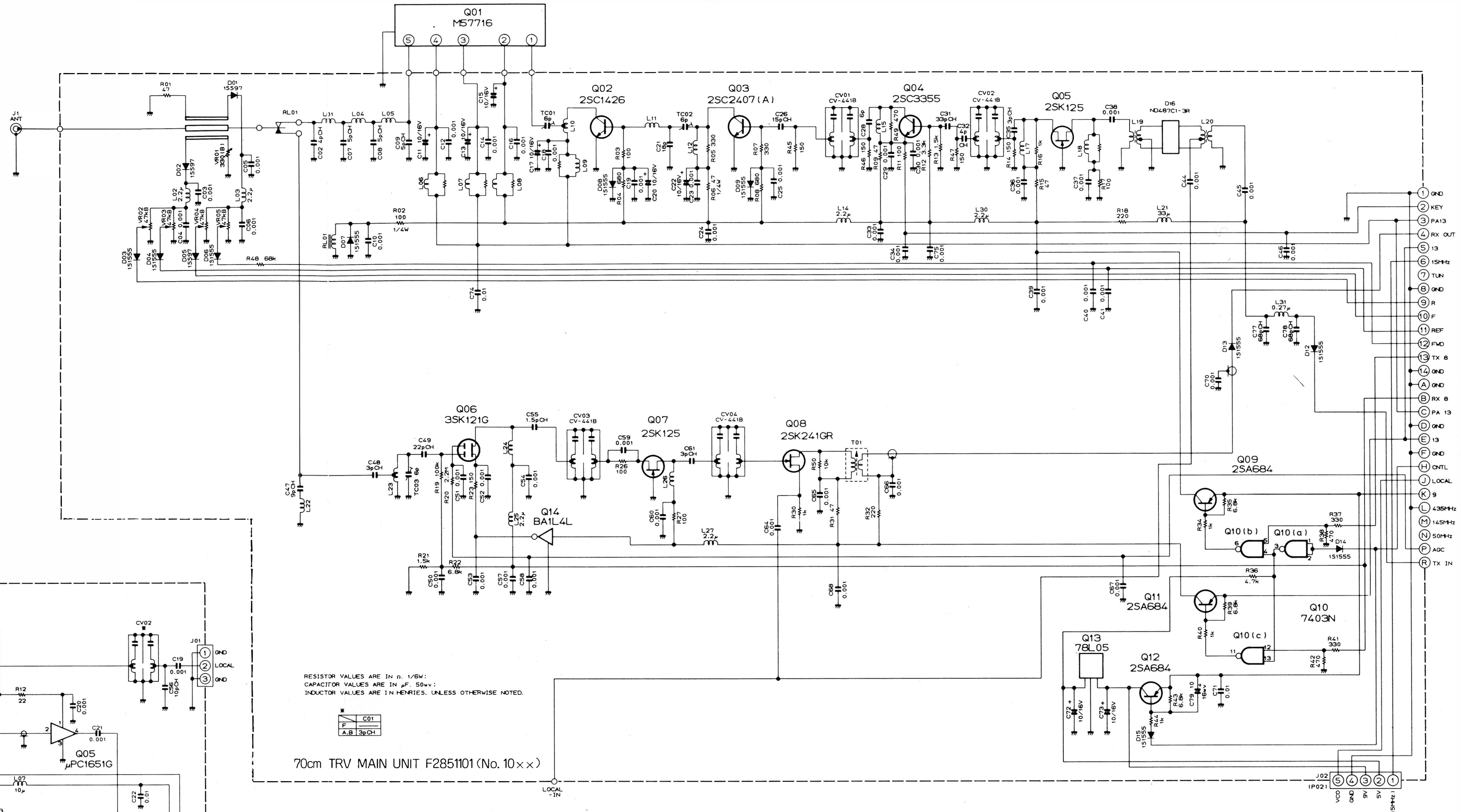
2SC2026 (Q2003)
2SC2407A (Q1003)
2SC3355 (Q1004)

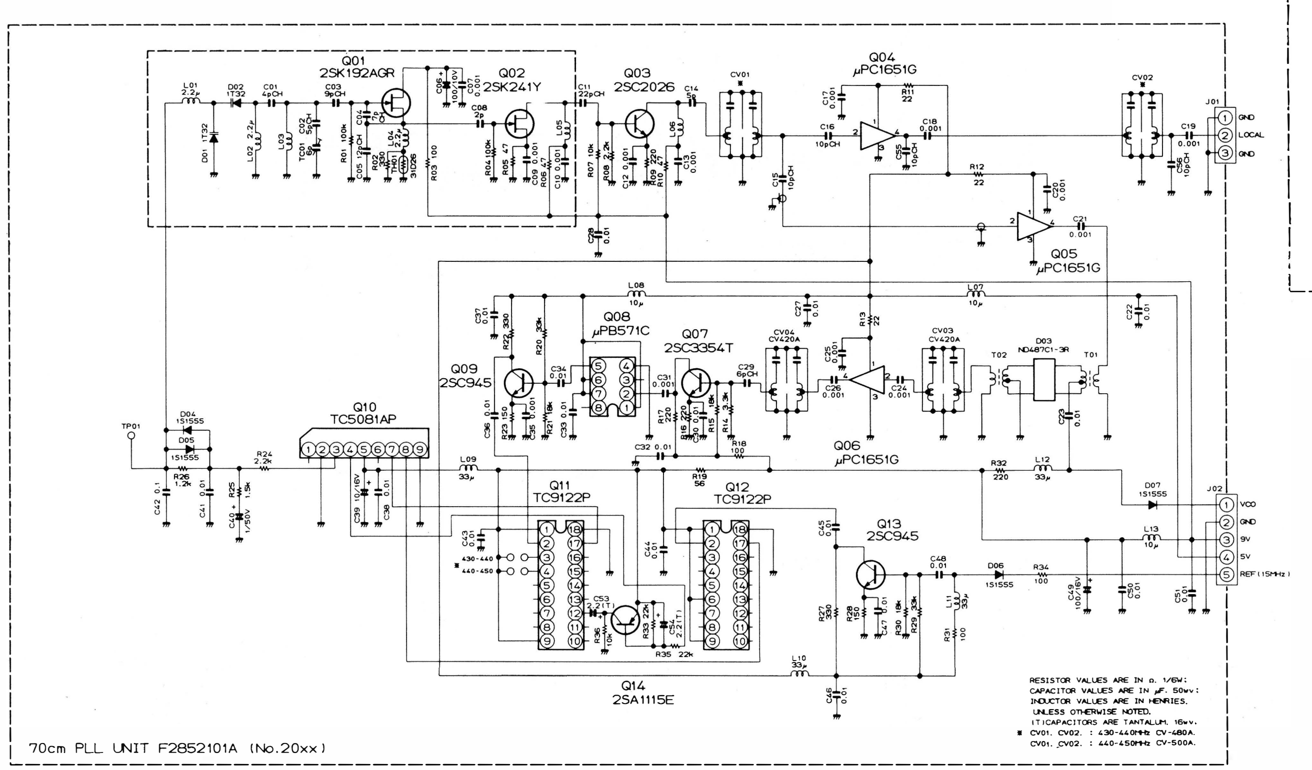
FEX-767-7 VOLTAGE CHART

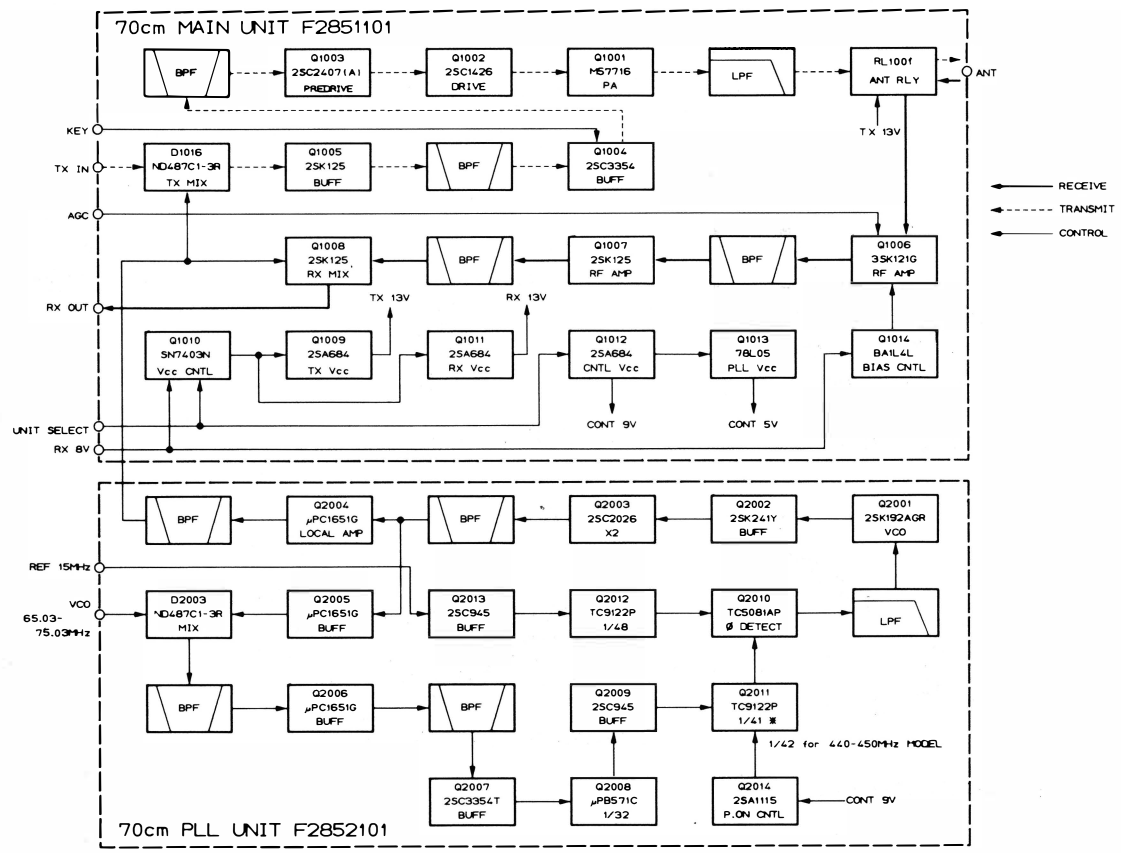
(DC VOLTS)

	E	(S)	C	(D)	B	(G1)	(G2)		REMARKS
	R	T	R	T	R	T	R	T	
Q1002	0	0	13.3	13.3	0	0.7			MODE USB
Q1003	0	0	0	8.3	0	0.8			
Q1004	0	1.9	0	7.9	0	2.6			
Q1005	0	1.6	0	8.1	0	0			
Q1006	2.9	4.7	9.0	9.0	1.6	1.6	3.0	3.0	
Q1007	1.5	0	11.5	0	0	0			
Q1008	0.9	0	13.0	0	0	0			
Q1009	9.0	9.0	0	8.8	9.0	8.2			
Q1011	13.1	13.1	13.0	0	12.3	13.1			
Q1012	9.1	9.1	9.0	9.0	8.3	8.3			
Q1013	N 9.0	9.0	GND 0	0	OUT 5.0	5.0			
Q2001	1.0		8.4		0				
Q2002	0.1		8.8		0				
Q2003	0.9		8.8		1.5				
Q2007	0.8		7.7		1.3				
Q2009	0.9		3.0		1.5				
Q2013	0.9		3.1		1.5				
Q2014	8.0		0		8.0				

FEX-767-7 CIRCUIT DIAGRAM







FEX-767-7 IC VOLTAGE CHART

(DC VOLTS)

PIN No.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	REMARKS
Q1001	RX	—	0	0	0	—														MODE USB
	TX	—	8.6	13.3	13.3	—														
Q1010		—	—	—	—	—	—	0	—	—	—	—	—	—	5.0					
Q2004		4.6	0.9	0	3.1															
Q2005		4.6	0.9	0	3.4															
Q2006		4.6	0.9	0	3.0															
Q2008		5.0	—	—	0	—	5.0	5.0	—											
Q2010		—	0	—	—	8.0	—	—	—	0										
Q2011		8.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0	
Q2012		8.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0	

FT-767GX PARTS LIST

MAIN CHASSIS

Symbol No.	Part No.	Name & Description
		DIODES
D1	G2090121	S25VB10
D2	G2090356	S10VB10
		CAPACITORS
C1, 2	K12329001	Ceramic 1.4kWV 0.01μF (ECK-DAL103PE)
C3	K13179008	〃 50WV 0.01μF F (DD106F103Z50)
C4*	K13179009	〃 〃 0.047μF 〃 (DD110F473Z50)
C5	K12171102	〃 〃 0.001μF E (DD104E102P50)
		POWER TRANSFORMER
PT1	L3030121	
		METER
M1	M0290053	
		COOLING FAN & MOTOR
MO1*	M2190004	MDN-7R1
	R0115060A	Motor Holder
	R3500250	Radial Fan
P66	T9205210	Wire Assy
		ROTARY ENCODER
	Q9000358A	REL-250
		SPEAKER
SP1	M4090061	SS-70T
		SWITCHES
S1	N4090107	SDL B
S2	N7090042	HXW0113
S3	N6090059	SDKGA4
S4	N7090041	OHD2-60M
		CONNECTORS
J1	T9205216	
J2		
J3	P0090094	AP-300-3A1
J4	P1090352	FM-MDR-M1
J5	P0090158	FM-214-8SSA
		FUSE
F1	Q0000007	10A 100-117V AC
F1	Q0000005	5A 220-234V AC
		FUSE HOLDER
FH1	P2000012	S-N2059
		LAMPS
PL1, 2	Q1000047	BQ044-32514M 14V
		FERRITE BEADS
FB1	L9190010	3A RI9.3×4.8-5
		KNOBS
	R3116100A	FT-50U Main Knob Assy
	R3108960A	Knob VOX GAIN PROC MONI
	R6108980B	Cap TX SHIFT,AGC,DIM
	R3101020B	FT-14VK METER
	R3100770B	FT-13WK MIC,SQL,AF,SHIFT NOTCH,KEYER
	R6100760A	FT-18D DRIVE, NB, RF, TONE, APF, PITCH
	R3100830C	Push knob E D LOCK
	R3115320	Knob UP
	R3115330	〃 DOWN
	R3115340	〃 BAND UP
	R3115350	〃 BAND DOWN
	R3116820	〃 LSB,USB,CW,AM,FSK, FM,SWR,RF,PWR
	R3115310	〃 POWER
	R3115390	〃 MOX
	R3115400B	〃 DISC,VOX,FULL BK-IN, PROC,MONI,TX SHIFT, T ENC,NOR,RF AMP, ATT,FAST,MIC U/D, KEYER
	R3115450	〃 AC 0
	R3115451	〃 CLAR 1
	R3115452	〃 MCK 2
	R3115453	〃 OFFSET 3
	R3115454	〃 MR 4
	R3115455	〃 SPLIT 5
	R3115456	〃 VFO■M 6
	R3115457	〃 SCAN 7
	R3115458	〃 M ▸VFO 8
	R3115459	〃 VFO ▸M 9
	R3115460	〃 TRACK ▸
	R3115461	〃 VFO A B CE
	R3115462	〃 H/G ENT
	R3115463	〃 PMS V/U
	R3115464	〃 FUNC TSET
	R3104081	Push knob RX ANT (NOR/SEP), BACKUP,MARK, LINEAR AMP

* 100W Type

RF UNIT

Symbol No.	Part No.	Name & Description
	F2781000B	Printed Circuit Board
	C027810AA	PCB with Components
		ICs
Q2002	G1090108	MC14518BCP
Q2016	G1090686	LA6458S
Q2017	G1090649	M5218
Q2026	G1090257	MC14066BCP
		FETs
Q2004-2008, 2011	G3801250	2SK125
Q2009	G4800740L	3SK74L
Q2019	G3801921G	2SK192A-GR
Q2020, 2025	G3801040J	2SK104J
		TRANSISTORS
Q2001, 2003, 2018, 2030, 2040	G3309451Q	2SC945AQ
Q2010, 2012	G3090010	2N4427
Q2013, 2028, 2029	G3090075	BN1A4P
Q2031-2039	G3090078	DTA143ES
Q2014, 2015	G3090074	BA1A4M
Q2021, 2024, 2027	G3107331P	2SA733AP
		DIODES
D2001, 2002, 2029-2033, 2035-2039, 2042-2045, 2049-2057, 2059-2067, 2069, 2070	G2090027	1SS53 Si

D2003-2028, 2034, 2047	G2090340	1SS83 Si
D2040, 2041, 2046	G2090229	HZ7B1 Zener
D2058	G2090217	HZ3C1 〃
D2068	G2090135	ND487C2-3R Quad (Ring)
D2071, 2072	G2090118	1SS97 Schottky
		CRYSTAL FILTER
XF2001	H1102107	XF45M-203-01
		RESISTORS
R2145	J30376019	Cement 5W 0.1Ω
R2063	J02245689	Carbon Film 1/4W 6.8Ω SJ
R2081	J02245569	〃 〃 〃 5.6Ω 〃
R2083, 2086, 2153	J02245100	〃 〃 〃 10Ω 〃
R2181	J01245220	〃 〃 〃 22Ω TJ
R2041, 2064	J02245470	〃 〃 〃 47Ω SJ
R2070	J01245470	〃 〃 〃 47Ω TJ
R2007	J02245560	〃 〃 〃 56Ω SJ
R2044, 2047, 2057, 2068, 2082	J02245680	〃 〃 〃 68Ω 〃
R2019-2029, 2031, 2033, 2035, 2046, 2067, 2069, 2073-2075, 2077, 2091, 2112, 2125, 2128, 2142, 2152, 2177, 2179, 2190	J02245101	〃 〃 〃 100Ω 〃
R2030, 2032, 2034, 2036, 2050, 2058, 2060	J01245101	〃 〃 〃 100Ω TJ
R2191	J00215101	〃 〃 1/8W 100Ω VJ
R2052, 2092	J02245221	〃 〃 1/4W 220Ω SJ
R2056	J02245331	〃 〃 〃 330Ω 〃
R2008, 2017, 2018, 2051, 2061, 2076, 2176, 2178, 2183, 2185	J02245471	〃 〃 〃 470Ω 〃
R2053	J01245471	〃 〃 〃 470Ω TJ
R2042, 2043, 2065, 2080	J02245681	〃 〃 〃 680Ω SJ
R2011, 2014-2016, 2040, 2078, 2079, 2089, 2090, 2093, 2094, 2131, 2140, 2143, 2173	J02245102	〃 〃 〃 1kΩ 〃
R2189	J01215102	〃 〃 1/8W 1kΩ TJ
R2062	J02245122	〃 〃 1/4W 1.2kΩ SJ
R2132	J02245152	〃 〃 〃 1.5kΩ 〃
R2009, 2049, 2126	J02245222	〃 〃 〃 2.2kΩ 〃
R2118	J02245332	〃 〃 〃 3.3kΩ 〃
R2059	J00215332	〃 〃 1/8W 3.3kΩ VJ
R2002, 2010, 2149, 2154	J02245472	〃 〃 〃 4.7kΩ SJ
R2175, 2188	J02245682	〃 〃 〃 6.8kΩ 〃
R2004, 2012, 2013, 2038, 2072, 2100, 2102, 2104, 2105, 2109, 2113, 2115, 2119, 2123, 2129, 2134, 2139,2144, 2182, 2184	J02245103	〃 〃 〃 10kΩ 〃
R2186	J01245103	〃 〃 1/4W 10kΩ TJ
R2055, 2174	J01215103	〃 〃 1/8W 10kΩ 〃
R2005	J02245153	〃 〃 1/4W 15kΩ SJ
R2001, 2003	J02245223	〃 〃 〃 22kΩ 〃
R2096, 2136, 2138	J02245333	〃 〃 〃 33kΩ 〃

R2108, 2111, 2150	J02245473	〃 〃 〃 47kΩ 〃
R2135	J02245683	〃 〃 〃 68kΩ 〃
R2039, 2045, 2048, 2101, 2103, 2106, 2114, 2116, 2124, 2180	J02245104	〃 〃 〃 100kΩ 〃
R2054	J02245124	〃 〃 〃 120kΩ 〃
R2187	J01215224	〃 〃 1/8W 220kΩ TJ
R2110	J02245474	〃 〃 1/4W 470kΩ SJ
R2130	J02245824	〃 〃 〃 820kΩ 〃
R2117	J02245105	〃 〃 〃 1MΩ 〃
R2037	J02245225	〃 〃 〃 2.2MΩ 〃
		POTENTIOMETERS
VR2001, 2012	J51745102	H0651A 007-1KB 1kΩB
VR2002, 2011	J51745473	H0651A 017-47KB 47kΩB
VR2003-2005, 2007, 2009	J51745103	H0651A 013-10KB 10kΩB
VR2008	J51745105	H0651A 025-1MB 1MΩB
VR2010	J60800124	RK09K 1110-10KB 10kΩB
		CAPACITORS
C2019, 2028, 2030, 2169	K00172050	Ceramic Disc 50WV 5pF SL (DD104SL050C50)
C2020, 2021	K00173060	〃 〃 〃 6pF 〃 (DD104SL060D50)
C2026, 2027	K00173090	〃 〃 〃 9pF 〃 (DD104SL090D50)
C2034, 2035	K00175120	〃 〃 〃 12pF 〃 (DD104SL120J50)
C2178	K02175150	〃 〃 〃 15pF CH (DD104CH150J50)
C2044, 2046	K00175180	〃 〃 〃 18pF SL (DD104SL180J50)
C2036, 2038, 2042, 2043	K00179005	〃 〃 〃 20pF 〃 (DD104SL200J50)
C2008, 2052, 2054	K00175220	〃 〃 〃 22pF 〃 (DD104SL220J50)
C2113, 2115	K00175330	〃 〃 〃 33pF 〃 (DD104SL330J50)
C2022	K00175390	〃 〃 〃 39pF 〃 (DD104SL390J50)
C2001, 2029	K00175470	〃 〃 〃 47pF 〃 (DD104SL470J50)
C2050, 2051	K00179010	〃 〃 〃 51pF 〃 (DD104SL510J50)
C2114	K00175680	〃 〃 〃 68pF 〃 (DD104SL680J50)
C2010, 2060, 2062	K00175620	〃 〃 〃 62pF 〃 (DD104SL620J50)
C2007	K00175750	〃 〃 〃 75pF 〃 (DD104SL750J50)
C2006, 2037, 2098, 2099, 2149, 2150	K00175820	〃 〃 〃 82pF 〃 (DD104SL820J50)
C2045	K00179013	〃 〃 〃 91pF 〃 (DD105SL910J50)
C2058, 2059	K00175101	〃 〃 〃 100pF 〃 (DD105SL101J50)
C2053, 2068, 2070	K00179015	〃 〃 〃 110pF 〃 (DD105SL111J50)
C2009, 2066, 2067, 2076, 2078	K00175151	〃 〃 〃 150pF 〃 (DD106SL151J50)
C2061	K00179019	〃 〃 〃 200pF 〃 (DD106SL201J50)
C2082, 2085	K00175271	〃 〃 〃 270pF 〃 (DD107SL271J50)
C2119	K00175561	〃 〃 〃 560pF 〃 (DD107SL561J50)

C2069	K00179022	Ceramic Disc 50WV360pFSL (DD108SL361J50)
C2074, 2075, 2077	K00175471	〃 〃 〃 470pF〃 (DD109SL471J50)
C2083, 2084, 2111, 2112, 2129, 2138, 2151-2154, 2160	K12171102	〃 〃 〃 0.001μF E (DD104E102P50)
C2004, 2005, 2012-2015, 2017, 2023, 2025, 2031, 2033, 2039, 2041, 2049, 2057, 2065, 2073, 2081, 2088, 2090, 2102, 2103, 2105-2110, 2116, 2118, 2120-2125, 2127, 2128, 2134, 2135, 2142-2144, 2148, 2158, 2162, 2164,2165, 2171-2173, 2176, 2177	K13179008	〃 〃 〃 0.01μF F (DD108F103Z50)
C2002, 2047, 2055, 2063, 2071, 2079, 2086, 2089, 2092, 2100, 2101, 2130, 2132, 2137, 2139, 2140, 2145	K13179009	〃 〃 〃 0.047μF F (DD110F473Z50)
C2093-2095, 2131	K19149021	Barrier Layer 25WV 0.047μF (UAT08X473K-L45AE)
C2003, 2011, 2016, 2097, 2104, 2163	K19149025	〃 〃 〃 0.1μF (UAT10X104K-L45AE)
C2157	K40179010	Electrolytic 50WV 0.47μF (RE-50VR47M)
C2018, 2141, 2170	K40179013	〃 〃 1μF (RE-50V010M)
C2136, 2167	K40179012	〃 〃 4.7μF (RE-50V4R7M)
C2024, 2032, 2040, 2048, 2056, 2064, 2072, 2080, 2087, 2133, 2155, 2159	K40179014	〃 〃 10μF (RE-50V100M)
C2091	K40179022	〃 〃 22μF (RE-50V220M)
C2175	K40129016	〃 16WV 22μF (RE-16V220M)
C2096	K40129008	〃 〃 33μF (RE-16V330M)
C2156	K70167224	Tantalum 50WV 0.22μF (DN1VR22MIS)
	K70167474	〃 〃 0.47μF (DN1VR47MIS)
C2168	K70127106	〃 16WV 10μF (DN1C100MIS)
C2166	K80000003	Capacitor Block 7x 0.01μF (CA1037)
		INDUCTORS
L2001, 2004, 2054, 2060, 2063	L1190175	LHL06NA 101K 100μH
L2002	L0021221	0.17μH
L2003	L0021222	0.24μH
L2005, 2006	L0190047	RF3855-4R7K 4.7μH
L2007, 2009	L0190045	RF3855-3R3K 3.3μH
L2008	L0190039	RF3855-1R0K 1μH
L2016, 2017, 2023, 2025	L1190163	LHL06NA 100K 10μH
L2011, 2012	L0190050	RF3855-8R2K 8.2μH

L2013, 2015	L0190048	RF3855-5R6K 5.6μH
L2014	L0190042	RF3855-1R8K 1.8μH
L2018, 2020	L1190161	LHL06NA 6R8K 6.8μH
L2019	L1190155	LHL06NA 2R2K 2.2μH
L2021, 2022, 2034	L1190165	LHL06NA 150K 15μH
L2024	L1190157	LHL06NA 3R3K 3.3μH
L2026, 2027	L1190166	LHL06NA 180K 18μH
L2028, 2030	L1190168	LHL06NA 270K 27μH
L2029	L1190162	LHL06NA 8R2K 8.2μH
L2031, 2032	L1190169	LHL06NA 330K 33μH
L1010, 2033, 2035-2037	L1190172	LHL06NA 560K 56μH
L2038, 2040, 2044	L1190174	LHL06NA 820K 82μH
L2039	L1190167	LHL06NA 220K 22μH
L2041, 2042	L1190173	LHL06NA 680K 68μH
L2043, 2045	L1190180	LHL06NA 271K 270μH
L2046, 2048	L1190177	LHL06NA 151K 150μH
L2047	L1190179	LHL06NA 221K 220μH
L2049, 2050, 2066	L1190187	LHL06NA 102K 1mH
L2051, 2062	L1190040	S4-102 1mH
L2052, 2067	L0021245	0.42μH
L2055, 2065	L1190133	LAL04NA 101K 100μH
L2056	L1190159	LHL06NA 4R7K 4.7μH
L2064	L1190095	LAL04NA4R7K 4.7μH
L2057, 2058	L0021221	0.17μH
L2059	L1190138	LAL04NA 100K 10μH
L2068	L1190135	LAL04NA 561K 560μH
L2069	L1190151	LHL06NA 1R0M 1μH
L2053, 2070	L1190090	LAL04NA 102K 1mH
L2071	L1190336	LAL04NA271K 270μH
L2072	L1190188	LAL03NAR22M 0.22μH
		TRANSFORMERS
T2001	L0021605	
T2002	L0020856	
T2003, 2008, 2009	L0020788A	
T2004-2007	L0021225	R12-6707A 47.1MHz
		FERRITE BEADS
	L9190001	RI3X3-1
		RELAYS
RL2001	M1190067	G5A-237P DC 12V
RL2002	M1190056	FBR21D12 〃
RL2003	M1190068	G6E-134P 〃
		LAMP FUSE
F2001	Q1000010	BQ041-22803A
		SWITCHES
S2001	N4090101	SPJ-2E
S2002	N6090033	SSS-21200
		CONNECTORS
J2001-2005	P1090348	S-Q 3097-01
J2006-2011	P1090255	TMP-JA
J2012, 2020, 2021	P0090197	B08B-XH-A
J2013	P0090200	B11B-XH-A
J2014, 2023, 2025, 2030-2032	P0090192	B03B-XH-A
J2015, 2022, 2024	P0090191	B02B-XH-A
J2016	P0090194	B05B-XH-A
J2017	P0090207	S06B-XH-A
J2018	P1090419	3024-06CH
J2019	P1090250	3024-08CH
J2026	P0090196	B07B-XH-A
J2027, 2028	P0090193	B04B-XH-A
J2029	P0090195	B06B-XH-A

	R5047911B	HEATSINK
		TERMINALS
	Q5000050	TP-K

IF UNIT

Symbol No.	Part No.	Name & Description
	F2783000B	Printed Circuit Board
	C027830AA	PCB with Components
		ICs
Q1007	G1090389	MC3359P
Q1017, 1036, 1070	G1090686	LA6458S
Q1037	G1090494	MB3713M-G
Q1038, 1055	G1090257	MC14066BCP
Q1051, 1052, 1054	G1090101	μPC 1037H
Q1053	G1090413	TA7302P
Q1059	G1090531	TMS1751C (M47003)
Q1060	G1090052	MC14049UBCP
		FETs
Q1001, 1002, 1009, 1012, 1016, 1025, 1050	G4800740L	3SK74L
Q1005, 1006, 1018, 1048, 1049, 1076, 1077	G3801040J	2SK104J
Q1008	G3802410G	2SK241GR
Q1011, 1031	G3801921G	2SK192A-GR
		TRANSISTORS
Q1003, 1004, 1013-1015, 1019, 1020 1022-1024, 1026-1030, 1056-1058 1064-1069, 1071-1073	G3309451Q	2SC945AQ
Q1010, 1061, 1063	G3107331P	2SA733AP
Q1021	G3319230O	2SC1923O
Q1033-1035, 1074	G3090068	2SC458LGC
Q1039-1047, 1079	G3090075	BN1A4P
Q1062, 1075	G3090074	BA1A4M
Q1078	G3406670C	2SD667C
		DIODES
D1001, 1002, 1058, 1059, 1121, 1137	G2090244	1SS106 Schottky
D1013, 1015, 1017-1020, 1101, 1142, 1143	G2090118	1SS97 〃
	G2090217	HZ3C1 Zener
D1036	G2090180	FC53-M5 Varactor
D1037	G2090220	ND487R1-3R Quad (Ring)
D1042, 1049	G2090226	HZ4C3 Zener
D1055	G2090023	1SV50 Varactor
D1057, 1122, 1123	G2090340	1SS83 Si
D1060, 1111, 1112, 1116, 1117	G2001880F	1S188FM1 Ge
D1063, 1110	G2090111	HZ6C1 Zener
D1132	G2090188	HZ5C1 〃
D1135	G2090217	HZ3C1 〃
D1003, 1006-1012, 1014, 1016, 1021-1035, 1041, 1043-1048, 1050, 1051, 1053, 1054, 1056, 1061, 1064-1091, 1094-1100,	G2090027	1SS53 Si

1102-1109, 1113-1115, 1118-1120, 1124-1131, 1133, 1134, 1136, 1138, 1140, 1141		
		CRYSTAL
X1001	H0102550	HC-18/u 8.67MHz
		CRYSTAL FILTERS
XF1001	H1102050	8.2M20A
XF1002	H1102079	XF-8.2M601-01 (CW)
XF1003	H1102080	XF-8.2M272-01 (SSB)
		CERAMIC FILTERS
CF1001	H3900200	CFW 455E
CF1002	H3900340	LF-H6S
CF1003	H3900378	LF-E2A
		CERAMIC RESONATOR
CO1001	H7900140	CSA 1.000MK
		RESISTORS
R1407	J01275279	Carbon Film 1/2W 2.7Ω TJ
R1153, 1342	J02245100	〃 〃 1/4W 10Ω SJ
R1341, 1353	J02245560	〃 〃 〃 56Ω 〃
R1125, 1161, 1220	J02245680	〃 〃 〃 68Ω 〃
R1004, 1005, 1007, 1009, 1010, 1017, 1022, 1029, 1046, 1057, 1061, 1070, 1072, 1073, 1083, 1087, 1091, 1117, 1126, 1137, 1146, 1155, 1156, 1160, 1163, 1166, 1195, 1204, 1205, 1250, 1254, 1255, 1260, 1272, 1292, 1332, 1338, 1380, 1390, 1391, 1396	J02245101	〃 〃 〃 100Ω 〃
R1028, 1048, 1064	J01245101	〃 〃 〃 100Ω TJ
R1032, 1214, 1348, 1394	J02245151	〃 〃 〃 150Ω SJ
R1030	J01245151	〃 〃 〃 150Ω TJ
R1026, 1050, 1090, 1154, 1173, 1183, 1268, 1269, 1277, 1286, 1288, 1290, 1291, 1349	J02245221	〃 〃 〃 220Ω SJ
R1144	J01245221	〃 〃 〃 220Ω TJ
R1053, 1181, 1303, 1351, 1370, 1375	J02245331	〃 〃 〃 330Ω SJ
R1027, 1044, 1049 1059, 1075, 1092, 1165, 1168, 1282, 1378	J02245471	〃 〃 〃 470Ω 〃
R1415	J01245561	〃 〃 〃 560Ω TJ
R1129, 1222, 1265	J02245561	〃 〃 〃 560Ω SJ
R1056, 1066, 1147, 1158, 1253, 1344	J02245681	〃 〃 〃 680Ω 〃
R1408	J01215102	〃 〃 1/8W 1kΩ TJ
R1001, 1011, 1016, 1019, 1020, 1037, 1047, 1058, 1067, 1076, 1082, 1100, 1119, 1120, 1124, 1140, 1143, 1150,	J02245102	〃 〃 1/4W 1kΩ SJ

1171, 1178, 1187, 1188, 1206, 1213, 1218, 1257, 1258, 1263, 1271, 1273, 1280, 1284, 1296, 1309, 1318, 1354, 1366, 1374, 1383, 1385, 1395, 1398, 1418		
R1337	J02245122	Carbon Film 1/4W 1.2kΩ 〃
R1040, 1099, 1162	J02245152	〃 〃 〃 1.5kΩ 〃
R1014, 1094, 1198, 1199, 1274, 1294, 1307, 1316, 1346, 1347, 1369, 1373, 1379, 1416, 1417	J02245222	〃 〃 〃 2.2kΩ 〃
	J01245222	〃 〃 〃 2.2kΩ TJ
R1298	J02245272	〃 〃 〃 2.7kΩ SJ
R1060, 1062, 1063, 1065, 1121, 1159, 1172, 1186, 1203, 1306, 1326	J02245332	〃 〃 〃 3.3kΩ 〃
R1224	J01215392	〃 〃 1/8W 3.9kΩ TJ
R1024, 1034, 1098, 1122, 1141, 1207, 1215, 1251, 1285, 1299, 1302,1330, 1333, 1340, 1389, 1393, 1413, 1419	J02245472	〃 〃 1/4W 4.7kΩ 〃
R1405	J01215472	〃 〃 1/8W 4.7kΩ TJ
R1093, 1217, 1334, 1336	J02245562	〃 〃 1/4W 5.6kΩ SJ
R1023, 1115, 1193, 1194, 1196, 1209-1211	J02245682	〃 〃 〃 6.8kΩ 〃
R1003, 1006, 1008, 1012, 1013, 1015, 1018, 1035, 1042, 1069, 1077, 1085, 1088, 1102-1104, 1109-1111, 1128, 1130-1133, 1139, 1149, 1152, 1170, 1174, 1189, 1192, 1208, 1216, 1225, 1230, 1231, 1266, 1287, 1293, 1312-1315, 1323, 1324, 1329, 1355, 1356, 1359, 1360, 1362, 1367, 1368, 1372, 1381, 1392, 1402, 1403	J02245103	〃 〃 〃 10kΩ 〃
R1406, 1410	J01215103	〃 〃 1/8W 10kΩ TJ
R1078, 1411	J01245103	〃 〃 1/4W 10kΩ 〃
R1039, 1252, 1256, 1352	J02245153	〃 〃 〃 15kΩ SJ
R1055	J02245183	〃 〃 〃 18kΩ 〃
R1123, 1127, 1138, 1142, 1202, 1232, 1234, 1270, 1317, 1320, 1350, 1376, 1399	J02245223	〃 〃 〃 22kΩ 〃
R1233	J02245273	〃 〃 〃 27kΩ 〃
R1041, 1068, 1086, 1113, 1179, 1301	J02245333	〃 〃 〃 33kΩ 〃
R1021, 1043, 1054,	J02245473	〃 〃 〃 47kΩ 〃

1112, 1148, 1164, 1167, 1169, 1175 1177, 1221, 1227, 1229, 1276, 1278, 1283, 1305, 1328, 1343, 1345, 1371		
R1267	J02245563	〃 〃 〃 56kΩ 〃
R1071, 1184, 1201, 1308, 1319, 1335, 1358	J02245683	〃 〃 〃 68kΩ 〃
R1080	J02245823	〃 〃 〃 82kΩ 〃
R1002, 1036, 1045, 1052, 1081, 1084, 1106, 1108, 1114, 1118, 1136, 1145, 1151, 1157, 1176, 1226, 1259, 1264, 1295, 1304, 1311, 1325, 1339, 1363, 1365, 1377, 1386, 1397	J02245104	〃 〃 〃 100kΩ 〃
R1051, 1197, 1212, 1275, 1279, 1281, 1364	J02245154	〃 〃 〃 150kΩ 〃
R1033	J01245154	〃 〃 〃 150kΩ TJ
R1079	J02245224	〃 〃 〃 220kΩ SJ
R1412	J01215224	〃 〃 1/8W 220kΩ TJ
R1038, 1105, 1331	J02245334	〃 〃 1/4W 330kΩ SJ
R1101	J02245474	〃 〃 〃 470kΩ 〃
R1219	J01245474	〃 〃 〃 470kΩ TJ
R1074	J02245824	〃 〃 〃 820kΩ SJ
R1310	J02245105	〃 〃 〃 1MΩ 〃
R1409	J01215105	〃 〃 1/8W 1MΩ TJ
R1116	J02245155	〃 〃 〃 1.5MΩ SJ
R1228	J02245225	〃 〃 〃 2.2MΩ 〃
R1361	J02245335	〃 〃 〃 3.3MΩ 〃
		POTENTIOMETERS
VR1001, 1014, 1019	J51745104	H0651A 019-100KB 100kΩ B
VR1002, 1005, 1007, 1009, 1012, 1016	J51745103	H0651A 013-10KB 10kΩ B
VR1003, 1013	J51745473	H0651A 017-47KB 47kΩ B
VR1004	J51745105	H0651A 025-1MB 1MΩ B
VR1006, 1015	J51745472	H0651A 011-4.7KB 4.7kΩ B
VR1008	J51745102	H0651A 007-1KB 1kΩ B
VR1017	J60800126	RK09K1110-500KB 500kΩ B
VR1018	J60800124	RK09K1110-10KB 10kΩ B
		THERMISTORS
TH1001	G9090002	D22A
TH1002	G9090016	112252-2
TH1003	G9090012	SDT500
		CAPACITORS
C1106	K06172030	Ceramic disc 50WV 3pF UJ (DD104UJ 030C50)
C1189	K00172050	〃 〃 〃 5pF SL (DD104SL 050C50)
C1032, 1034, 1288, 1309, 1310	K00173100	〃 〃 〃 10pF 〃 (DD104SL 100D50)
C1009, 1115, 1203	K00175220	〃 〃 〃 22pF 〃 (DD104SL 220J50)
C1102, 1104, 1119, 1139	K00175330	〃 〃 〃 33pF 〃 (DD104SL 330J50)
C1096, 1113, 1295	K00175470	〃 〃 〃 47pF 〃 (DD104SL 470J50)

C1136	K00175680	Ceramic disc 50WV 68pF SL (DD104SL 680J50)
C1001, 1023, 1047, 1053, 1085, 1112, 1117, 1129, 1235, 1284	K00175101	〃 〃 〃 100pF 〃 (DD105SL 101J50)
C1233	K00175121	〃 〃 〃 120pF 〃 (DD105SL 121J50)
C1005, 1046, 1131	K00175151	〃 〃 〃 150pF 〃 (DD106SL 151J50)
C1011, 1013	K00179019	〃 〃 〃 200pF 〃 (DD106SL 201J50)
C1107-1109	K06179018	〃 〃 〃 330pF UJ (DD110UJ 331J50)
C1211	K00175471	〃 〃 〃 470pF 〃 (DD109SL 471J50)
C1017, 1018, 1097, 1128, 1142, 1180, 1185, 1186, 1237, 1238, 1240, 1257, 1265, 1267-1269, 1282, 1294	K12171102	〃 〃 〃 0.001μF E (DD104E 102P50)
C1002-1004, 1006-1008, 1010, 1015, 1016, 1019, 1021, 1022, 1024-1031, 1033, 1035, 1049-1051, 1054, 1057, 1059, 1061, 1063, 1066, 1073, 1074, 1077-1079, 1083, 1100, 1101, 1103, 1105, 1110, 1111, 1116, 1120, 1122-1124, 1127, 1132, 1134, 1135, 1137, 1141, 1183, 1184, 1187, 1188, 1190-1197, 1199, 1202, 1207, 1230, 1236, 1241, 1247, 1264, 1281, 1291, 1296, 1297, 1299, 1305	K13179008	〃 〃 〃 0.01μF F (DD106F 103Z50)
C1020, 1055, 1056, 1060, 1062, 1064, 1065, 1067-1072, 1080-1082, 1084, 1086, 1088, 1090, 1091, 1098, 1121, 1130, 1201, 1204, 1205, 1210, 1216-1219, 1272, 1273, 1301	K13179009	〃 〃 〃 0.047μF 〃 (DD110F 473Z50)
C1037, 1173, 1177, 1209, 1214, 1221, 1222, 1283	K19149021	Barrier Layer 25WV 0.047μF (UAT08X 473K-L45AE)
C1038, 1044, 1045, 1052, 1178,	K19149025	〃 〃 〃 0.1μF (UAT10X 104K-L45AE)
C1075, 1076	K51176102	Polyester 50WV 0.001μF (50SU102K)
C1039, 1040, 1153, 1228	K50170007	Mylar 50WV 0.001μF (50F2U102M)
C1138, 1155, 1158	K50177222	〃 〃 0.0022μF (50F2U222M)
C1156	K50177472	〃 〃 0.0047μF (50F2U472M)
C1087, 1162, 1164, 1253	K50177103	〃 〃 0.01μF (50F2U103M)
C1169, 1170	K50177153	〃 〃 0.015μF (50F2U153M)
C1099, 1143, 1163, 1223-1225, 1244, 1245, 1259, 1261	K50177223	〃 〃 0.022μF (50F2U223M)
C1239	K50177273	〃 〃 0.027μF (50F2U273M)
C1042	K50177683	〃 〃 0.068μF (50F2U683M)
C1182	K40179016	Electrolytic 50WV 0.1μF (RE-50V 0R1M)
C1058	K40179026	〃 〃 0.22μF (RE-50V R22M)
C1285, 1287	K40179005	〃 〃 0.47μF (RE-50V R47M)
C1140, 1144, 1147, 1149, 1200, 1213, 1215, 1229, 1243, 1246, 1249-1252, 1266, 1270, 1277, 1278, 1289	K40179013	〃 〃 1μF (RE-50V 010M)
C1234, 1271	K40179009	〃 〃 2.2μF (RE-50V 2R2M)
C1036, 1150-1152, 1157, 1159, 1161, 1166, 1167, 1171, 1181, 1208, 1220, 1226, 1231, 1242, 1255, 1258, 1260, 1275, 1293	K40179012	〃 〃 4.7μF (RE-50V 4R7M)
C1012, 1014, 1041, 1048, 1125, 1148, 1165, 1174, 1198, 1227, 1248, 1254, 1262, 1263, 1274, 1276, 1279, 1280, 1292, 1298, 1308	K40179014	〃 〃 10μF (RE-50V 100M)
	K40129004	〃 16WV 10μF (RE-16V 100M)
C1168	K40129012	〃 〃 10μF (RC2-16V 100M)
C1093, 1118, 1146, 1154, 1160, 1256, 1307	K40149025	〃 25WV 22μF (RE-25V 220M)
C1126	K40109002	〃 10WV 47μF (RE-10V 470M)
C1175	K40149022	〃 25WV 47μF (RE-25V 470M)
C1089, 1179	K40149003	〃 〃 100μF (RE-25V 101M)
C1172, 1176	K40129031	〃 16WV 470μF (RC-16V 471M)
C1094	K70167224	Tantalun 35WV 0.22μF (DN1VR22MIS)
C1302	K70167474	〃 〃 0.47μF (DN1V R47MIS)
C1303	K70167684	〃 〃 0.68μF (DN1V R68MIS)
C1304	K70107475	〃 〃 4.7μF (DN1A 4R7MIS)
		INDUCTORS
L1001, 1009, 1010, 1015, 1018	L1190187	LHL06NA 102K 1mH
L1002-1006, 1012, 1017, 1022, 1023	L1190177	LHL06NA 151K 150μH

L1008, 1021	L1190090	LHL04NA 102K 1mH
L1013	L0021394	15μH
L1014	L1190162	LHL06NA 8R2K 8.2μH
	L2030067B	3mH
L1019, 1020	L1190115	S-154K 150mH
L1011	L1190315	LAL04NAR68 0.68μH
		TRANSFORMERS
T1001, 1002, 1005-1007, 1014, 1016, 1019, 1020	L0021199	R12-4043A 8.20MHz
T1003, 1017	L0021225	R12-6707A 47.1MHz
T1004	L0021396	R12-6368A 8.21MHz
T1008-1010, 1015, 1022, 1023	L0020422	R12-7947C
T1011	L0021610	R12-E453 455kHz
T1012, 1021	L0020420	R12-7943B
T1013	L0021233	R12-6710A 38.0MHz
T1018	L0021395	R12-6367A 8.21MHz
		CONNECTORS
J1001, 1002, 1007, 1009, 1013, 1014, 1017, 1020, 1022, 1023, 1025, 1030, 1037, 1040, 1042, 1045, 1046	P0090191	B02B-XH-A
J1004, 1018, 1024, 1026, 1031, 1033, 1036, 1038	P0090192	B03B-XH-A
J1008	P0090195	B06B-XH-A
J1011, 1015, 1016, 1019, 1028, 1044, 1010	P0090193	B04B-XH-A
J1027, 1035	P0090194	B05B-XH-A
J1003, 1005, 1006	P1090255	TMP-JA
J1012	P0090352	3022-03A
J1021	P1090520	HSJ0918-01-110
J1029	P1090350	S-G8035
J1032, 1039, 1041, 1043	P1090348	S-Q3097-01
J1034	P1090351	S-G4617
		JUMPER PLUGS
P1001	T9205345	
P1002	T9204759	
		TERMINAL POSTS
	Q5000050	TP-K
	Q5000036	TP-G
	R0114890	HEATSINK

LOCAL UNIT

Symbol No.	Part No.	Name & Description
	F2782000B	Printed Circuit Board
	C027820AA	PCB with Components JA (W/O BAT3001)
	C027820AB	PCB with Components EXP (W/O BAT3001)
		ICs
Q3001	G1090717	HD63A05Y0A82P
Q3002	G1090718	μPD65006CW-034
Q3003	G1090549	TL7705CPB
Q3004	G1090395	SN74LS145N
Q3005, 3007, 3008	G1090312	MC14504BCP
Q3006	G1090166	MC14050BCP
Q3009	G1090372	SN74LS26N
Q3010	G1090719	SN74159N
Q3014, 3016, 3022	G1090062	SN76514N
Q3026, 3054	G1090296	HD10551
Q3033, 3060	G1090012	SN16913P
Q3036, 3037	G1090550	MC145145P
Q3069	G1090299	μPC7805H
Q3076	G1090052	MC14049UBCP
		FETs
Q3018, 3028	G3801921G	2SK192A-GR
Q3029	G4800730G	3SK73GR
		TRANSISTORS
Q3011, 3013, 3024, 3027, 3034, 3038, 3055, 3059, 3065-3068, 3071-3075, 3077, 3078, 3081-3083	G3309451Q	2SC945AQ
Q3012, 3015, 3017, 3019-3021, 3023, 3025, 3030-3032, 3035, 3044-3047	G3305350B	2SC535B
Q3039-3043, 3048-3053, 3056-3058, 3061-3064, 3079, 3080	G3107331P	2SA733AP
Q3070	G3406670C	2SD667C
		DIODES
D3001	G2090023	1SV50 Varactor
D3012, 3059, 3102, 3103	G2090188	HZ5C1 Zener
D3013, 3081	G2090180	FC53M-5 Varactor
D3015, 3018, 3083, 3084, 3105, 3106, 3115	G2090118	1SS97 Schottky
D3019	G2090165	FC52M-5 Varactor
D3052-3055	G2090245	1SV103 Varactor
D3107	G2090218	HZ9C1 Zener
D3002-3011, 3014, 3016, 3017, 3020-3025, 3026*, 3027*, 3028-3051, 3056-3058, 3060-3080, 3082, 3085-3098, 3100, 3101, 3104, 3108-3113, 3117-3119, 3120	G2090027	1SS53 Si
D3116	G2090226	HZ4C3 Zener
		CRYSTALS
X3001	H0102703	HC-49/U 30.03MHz

* JA model only

X3002	H0102556A	HC-18/U	6.7866MHz
X3003	H0102700	〃	6.7834MHz
X3004	H0102701	〃	6.7841MHz
X3005	H0102702	〃	6.7872MHz
X3007	H0102554A	〃	15.000MHz
X3008	H0102553B	〃	15.0007MHz
		CRYSTAL-OSC UNIT	
	H9500060	H-GF1502	15MHz
		CERAMIC RESONATORS	
CO3001	H7900290	R6.0M	6MHz
CO3002	H7900350	R580C	580kHz
		BUZZER	
BZ3001	M4290001	EFBRE-25D02	
		RESISTORS	
R3013, 3037, 3049, 3204	J02245470	Carbon Film 1/4W	47Ω SJ
R3075, 3191	J02245680	〃 〃 〃	68Ω 〃
R3012, 3016, 3021, 3024, 3026-3029, 3031, 3034, 3035, 3040, 3045, 3048, 3052, 3061, 3063, 3068, 3070-3072, 3077, 3080, 3091, 3095, 3098, 3101, 3103, 3105, 3112, 3148, 3154, 3160, 3166, 3193, 3194, 3201, 3202, 3223, 3234, 3239, 3279, 3292	J02245101	〃 〃 〃	100Ω 〃
R3291	J01245101	〃 〃 〃	100Ω TJ
R3110	J02245151	〃 〃 〃	150Ω SJ
R3089, 3113-3116, 3118-3125, 3127-3130, 3172-3175, 3240, 3241	J02245221	〃 〃 〃	220Ω 〃
R3079, 3088, 3249	J02245331	〃 〃 〃	330Ω 〃
R3046	J02245391	〃 〃 〃	390Ω 〃
R3023, 3033, 3036, 3039, 3042, 3044, 3057, 3060, 3064, 3067, 3069, 3076, 3083, 3093, 3097, 3102, 3104, 3109, 3133, 3221, 3229, 3273, 3280	J02245471	〃 〃 〃	470Ω 〃
R3073, 3084, 3107, 3244, 3250	J02245681	〃 〃 〃	680Ω 〃
R3015, 3025, 3030, 3047, 3082, 3090, 3094, 3111, 3135, 3136, 3227, 3228, 3258, 3300	J02245102	〃 〃 〃	1kΩ 〃
R3085	J02245152	〃 〃 〃	1.5kΩ 〃
R3132	J02245182	〃 〃 〃	1.8kΩ 〃
R3009, 3053, 3176, 3178, 3180, 3182,	J02245222	〃 〃 〃	2.2kΩ 〃
3184, 3186, 3195, 3197, 3199, 3217, 3218, 3233, 3256			
R3225	J02245272	〃 〃 〃	2.7kΩ 〃
R3138, 3140, 3142, 3144, 3146, 3226, 3242	J02245332	〃 〃 〃	3.3kΩ 〃
R3065, 3099, 3206, 3224, 3247, 3251, 3260, 3261, 3282, 3284, 3286, 3288	J02245472	〃 〃 〃	4.7kΩ 〃
R3020, 3237, 3290	J02245562	〃 〃 〃	5.6kΩ 〃
R3208	J02245682	〃 〃 〃	6.8kΩ 〃
R3010, 3018, 3019, 3041, 3050, 3058, 3117, 3126, 3149-3151, 3155, 3157, 3161-3163, 3167-3169, 3177, 3179, 3181, 3183, 3185, 3187, 3192, 3196, 3198, 3200, 3211, 3213, 3215, 3220, 3222, 3231, 3235, 3245, 3246, 3248, 3259, 3264-3268, 3274, 3276, 3281, 3283, 3285, 3287, 3289, 3293-3296	J02245103	〃 〃 〃	10kΩ 〃
R3209, 3255, 3257	J01245103	〃 〃 〃	10kΩ TJ
R3303, 3304	J01215103	〃 〃 1/8W	10kΩ 〃
R3156, 3207, 3262	J02245153	〃 〃 1/4W	15kΩ SJ
R3017, 3022, 3043, 3051, 3059, 3074, 3086, 3137, 3139, 3141, 3143, 3145, 3153, 3159, 3165, 3171, 3230	J02245223	〃 〃 〃	22kΩ 〃
R3205, 3238	J02245333	〃 〃 〃	33kΩ 〃
R3002, 3011, 3032, 3055, 3066, 3100, 3188-3190, 3210, 3212, 3214, 3216, 3232, 3263, 3277, 3301, 3302	J02245473	〃 〃 〃	47kΩ 〃
R3014, 3038, 3054, 3056, 3062, 3078, 3081, 3087, 3092, 3096, 3106, 3108, 3131, 3134, 3152, 3158, 3164, 3170, 3203, 3219, 3236, 3252-3254, 3275, 3278, 3297	J02245104	〃 〃 〃	100kΩ 〃
R3147	J02245124	〃 〃 〃	120kΩ 〃
R3269	J02245274	〃 〃 〃	270kΩ 〃
R3008	J02245105	〃 〃 〃	1MΩ 〃
	J02245155	〃 〃 〃	1.5MΩ 〃
R3006	J02245225	〃 〃 〃	2.2MΩ 〃
		BLOCK RESISTORS	
RB3001	J40900044	EXB-R87 103K	10KΩ×7
RB3002	J40900050	EXB-P86 473K	47KΩ×6

RB3003-3005	J40900023	DA-2
		POTENTIOMETERS
VR3001	J51760104	GF06P 100kΩB
VR3002	J51769222	PK502H222H0 2.2kΩB
VR3003	J51745223	H0651A015-22KB 22kΩB
		CAPACITORS
C3103	K02179001	Ceramic disc 50WV 1pF CH (DD104CK010C50)
C3102	K02179005	〃 〃 〃 1.5pF 〃 (DD104CK1RC50)
C3003	K02172040	〃 〃 〃 4pF 〃 (DD104CH040C50)
C3071	K02173080	〃 〃 8pF 〃 (DD104CH080J50)
C3107, 3231	K02175150	〃 〃 15pF 〃 (DD104CH150D50)
C3062, 3063, 3065	K02175220	〃 〃 22pF 〃 (DD104CH220J50)
C3064	K02175390	〃 〃 39pF 〃 (DD105-257CH390J50)
	K02179025	〃 〃 220pF 〃 (DD111CH221J50)
C3075, 3076	K02179027	〃 〃 270pF 〃 (DD112CH271J50)
C3173, 3175, 3179, 3181, 3187, 3193	K06172050	〃 〃 5pF UJ (DD104UJ050C50)
C3008, 3180, 3185, 3191	K06175150	〃 〃 15pF 〃 (DD104UJ150J50)
C3174	K06175180	〃 〃 18pF 〃 (DD104UJ180J50)
C3186	K06175220	〃 〃 22pF 〃 (DD104UJ220J50)
C3108	K06175270	〃 〃 27pF 〃 (DD104UJ270J50)
C3109, 3176, 3182, 3192	K06175330	〃 〃 33pF 〃 (DD104UJ330J50)
C3188	K06179009	〃 〃 56pF 〃 (DD105UJ560J50)
C3194	K06175820	〃 〃 82pF 〃 (DD106UJ820J50)
C3005, 3006	K06175101	〃 〃 100pF 〃 (DD106UJ101J50)
C3085, 3125	K00179001	〃 〃 0.5pF SL (DD104SL0R5C50)
C3088	K00172010	〃 〃 1pF 〃 (DD104SL010C50)
C3102	K00175159	〃 〃 1.5pF 〃 (DD104SL1R5C50)
C3022-3025, 3047, 3214	K00172020	〃 〃 2pF 〃 (DD104SL020C50)
C3081, 3090, 3228	K00172040	〃 〃 4pF 〃 (DD104SL040C50)
C3048, 3199, 3200	K00172050	〃 〃 5pF 〃 (DD104SL050C50)
C3080, 3122	K00173060	〃 〃 6pF 〃 (DD104SL060D50)
C3266	K00173080	〃 〃 8pF 〃 (DD104SL080D50)
C3219	K00173100	〃 〃 10pF 〃 (DD104SL100D50)
C3093	K00175120	〃 〃 12pF 〃 (DD104SL120J50)

C3134, 3136, 3147, 3158	K00175150	〃 〃 15pF 〃 (DD104SL150J50)
C3028, 3037, 3040, 3055, 3082, 3211	K00175180	〃 〃 18pF 〃 (DD104SL180J50)
C3056, 3078, 3095	K00175220	〃 〃 22pF 〃 (DD104SL220J50)
C3051, 3052	K00175270	〃 〃 27pF 〃 (DD104SL270J50)
C3135	K00175330	〃 〃 33pF 〃 (DD104SL330J50)
C3038, 3039	K00179008	〃 〃 36pF 〃 (DD104SL360J50)
C3096	K00175390	〃 〃 39pF 〃 (DD104SL390J50)
C3091, 3222	K00175560	〃 〃 56pF 〃 (DD104SL560J50)
C3042, 3208	K00175620	〃 〃 62pF 〃 (DD104SL620J50)
C3251, 3252	K00175680	〃 〃 68pF 〃 (DD104SL680J50)
C3094	K00179013	〃 〃 91pF 〃 (DD105SL910J50)
C3092, 3120, 3224, 3225, 3257	K00175101	〃 〃 100pF 〃 (DD105SL101J50)
C3041, 3043, 3138	K00175121	〃 〃 120pF 〃 (DD105SL121J50)
C3258	K00175151	〃 〃 150pF 〃 (DD106SL151J50)
C3140, 3141, 3144, 3145, 3149-3156, 3160-3163	K00175221	〃 〃 220pF 〃 (DD107SL221J50)
C3106	K05175560	〃 〃 56pF RH (DD106RH560J50)
C3010-3012, 3117, 3169, 3170, 3195, 3196	K12171102	〃 〃 0.001μF E (DD104E102P50)
C3001, 3002, 3004, 3007, 3009, 3013, 3014, 3016-3021, 3026, 3027, 3029-3036, 3044-3046, 3049, 3050, 3053, 3054, 3057-3061, 3066-3070, 3072-3074, 3077, 3079, 3083, 3084, 3086, 3087, 3089, 3098, 3100, 3101, 3105, 3110, 3114-3116, 3118, 3119, 3121, 3123, 3124, 3126-3133, 3137, 3139, 3142, 3146, 3157, 3172, 3178, 3184, 3190, 3197, 3202-3206, 3209, 3210, 3212, 3213, 3216, 3218, 3220, 3221, 3223, 3226, 3227, 3230, 3232-3234, 3236, 3239-3247, 3261-3265	K13179008	〃 〃 0.01μF F (DD106F103Z50)
C3015, 3097, 3197, 3202, 3217	K13179010	〃 〃 0.022μF 〃 (DD108F228Z50)

C3256	K13179009	Ceramic 50WV 0.047μF F (DD110F473Z50)
C3165	K19149009	Barrier Layer 25WV 0.0047μF (UAT05X472K-L45AE)
C3113, 3167	K19149013	〃 〃 〃 0.01μF (UAT05X103K-L45AE)
C3248, 3259, 3260, 3267	K19149025	〃 〃 〃 0.1μF (UAT10X104K-L45AE)
C1112, 1166	K40179010	Electrolytic 50WV 0.47μF (RE-50VR47M)
C1143, 3164, 3168, 3229, 3237, 3254	K40179013	〃 〃 1μF (RE-50V010M)
C3250	K40179009	〃 〃 2.2μF (RE-50V2R2M)
C3207, 3249	K40179011	〃 〃 3.3μF (RE-50V3R3M)
C3099, 3148, 3159, 3215, 3235	K40179014	〃 〃 10μF (RE-50V100M)
C3171, 3177, 3183, 3189, 3238	K40129008	〃 16WV 33μF (RE-16V330M)
C3104	K40109002	〃 10WV 47μF (RE-10V470M)
C3111	K40109001	〃 〃 100μF (RE-10V101M)
		TRIMMER CAPACITORS
TC3001, 3005	K91000093	CTZ51F118 30pF
TC3002, 3003, 3004, 3007, 3008, 3009	K91000086	CTZ51E117 20pF
	K91000085	CTZ51C122 10pF
	K91000108	CTZ51A157 6pF
		BLOCK CAPACITOR
CB3001	K80000007	1038Z 0.01μFX8
		INDUCTORS
L3013	L1190151	LHL06NA1R0M 1μH
L3008	L1190155	LHL06NA2R2M 2.2μH
L3002-3004	L1190157	LHL06NA3R3M 3.3μH
L3006, 3007	L1190160	LHL06NA5R6K 5.6μH
L3021, 3022	L1190163	LHL06NA100K 10μH
L3010	L1190134	S4-180K 18μH
L3001	L1190167	LHL06NA220K 22μH
L3011, 3012	L1190147	S4-270K 27μH
L3007, 3023, 3030, 3031	L1190175	LHL06NA101K 100μH
L3024, 3025, 3027	L1190177	LHL06NA151K 150μH
L3028, 3029, 3032	L1190221	LAL03NA181K 180μH
L3014-3018, 3020	L1190184	LHL06NA561K 560μH
L3009	L0021410	0.147μH
L3019	L0020332A	R12-1255X 5.25MHz
L3026	L0021206B	
		TRANSFORMERS
T3001, 3008	L0020788A	
T3002-3004, 3012, 3013, 3017, 3018	L0020909	46.3MHz
T3005-3007, 3014, 3015	L0021390	58.1125MHz
T3009-3011	L0021609	36.8MHz
T3016	L0021205	0.70μH
T3019	L0021401	0.28μH
T3020, 3021	L0021399	0.42μH
T3022	L0021599	
T3023, 3024	L0021199	R12-4043A 8.20MHz
	L9190016	07MM
		SWITCHES
S3001	N6090037	SSS-312
S3002-3004	N4090012	SPJ-22-A01
		CONNECTORS
J3001-3005	P1090255	TMP-JA
J3006	P1090296	S-Q3097-02
J3007	P1090354	S-Q3097-04
J3008, 3009, 3020, 3021, 3025	P00090191	B02B-XH-A
J3010, 3022, 3029	P0090192	B03B-XH-A
J3011, 3012, 3030	P0090196	B07B-XH-A
J3013, 3016, 3023	P0090193	B04B-XH-A
J3014, 3017, 3018	P0090194	B05B-XH-A
J3015	P0090202	B13B-XH-A
J3019	P0090200	B11B-XH-A
J3024, 3026	P0090197	B08B-XH-A
J3027	P1090423	TCS4460-01-111
J3028	P1090521	TCS4490-01-1111
		TERMINAL POSTS
	Q5000050	TP-K
		BATTERY
BAT3001	Q9000248	CR-1/3N-P
	R0114910	Shield Case
	R0114920	Shield Cover

LPF UNIT

Symbol No.	Part No.	Name & Description
	F2784000A	Printed Circuit Board
	C027840A	PCB with Components
		DIODES
D6101-6104	G2090244	1SS106 Schottky
D6105-6112	G2015550	1S1555 Si
		SURGE ABSORBER
D6113	Q9000375	DSP201-S00B
		RESISTORS
R6101, 6102	J02245220	Carbon film 1/4W 22Ω SJ
		CAPACITORS
C6142-6145, 6155	K13179008	Ceramic 50WV 0.01μF F (DD106F103Z50)
C6146-6154	K13179009	〃 〃 0.047μF 〃 (DD110F473Z50)

C6119, 6133	K00275100	Ceramic 500WV 10pF SL (DD06SL100D500)
C6134, 6139	K00275120	〃 〃 12pF 〃 (DD06SL 120J500)
C6128	K00275180	〃 〃 18pF 〃 (DD06SL180J500)
C6137	K00275330	〃 〃 33pF 〃 (DD09SL330J500)
C6117, 6131	K00275360	〃 〃 36pF 〃 (DD06SL360J500)
C6126	K00275510	〃 〃 51pF 〃 (DD09SL510J500)
	K00275680	〃 〃 68pF 〃 (DD09SL680J500)
C6121, 6140	K00275750	〃 〃 75pF 〃 (DD09SL750J500)
C6112	K00275820	〃 〃 82pF 〃 (DD09SL820J500)
	K00275101	〃 〃 100pF 〃 (DD09SL101J500)
C6115, 6135	K00275111	〃 〃 110pF 〃 (DD09SL111J500)
C6125, 6130, 6138	K00275151	〃 〃 150pF 〃 (DD10SL151J500)
C6123	K30275270	Dipped Mica 〃 27pF (LCQ12270J5)
C6136	K30275121	〃 〃 〃 120pF (LCQ17121J5)
C6103	K30275161	〃 〃 〃 160pF (LCQ17161J5)
C6129	K30275181	〃 〃 〃 180pF (LCQ17181J5)
C6120, 6132	K30275221	〃 〃 〃 220pF (LCQ17221J5)
C6110	K30275241	〃 〃 〃 240pF (LCQ17241J5)
C6124	K30275271	〃 〃 〃 270pF (LCQ17271J5)
C6114, 6127	K30275331	〃 〃 〃 330pF (LCQ17331J5)
C6118	K30275361	〃 〃 〃 360pF (LCQ17361J5)
C6141	K30275431	〃 〃 〃 430pF (LCQ18431J5)
C6102, 6106, 6108, 6122	K30275471	〃 〃 〃 470pF (LCQ17471J5)
C6109	K30275561	〃 〃 〃 560pF (LCQ18561J5)
C6105, 6113, 6116	K30275681	〃 〃 〃 680pF (LCQ18681J5)
C6107	K30275821	〃 〃 〃 820pF (LCQ18821J5)
C6101	K30275102	〃 〃 〃 1000pF (LCQ21102J5)
C6104, 6111	K30279095	〃 〃 〃 1200pF (DM19122J5)
		TRIMMER CAPACITOR
TC6101	K91000012	ECV-1ZW10X32 10pF
		INDUCTORS
L6101	L0021405	T50-2 3.770μH
L6102	L0021406	〃 2.940μH
L6103	L0020615	〃 1.900μH
L6104	L0021433	〃 2.400μH
L6105	L0020617	T50-6 1.100μH
L6016	L0020618	〃 1.320μH

L6107	L0021228	0.780μH
L6108	L0021229	0.920μH
L6109	L0020854	0.590μH
L6110	L0020855	0.700μH
L6111	L0020621	0.370μH
L6112	L0020622	0.440μH
L6113	L0020623	0.250μH
L6114	L0020624	0.310μH
L6115	L0021347	
L6116, 6117	L1190017	FL5H102K 1mH
		RELAYS
RL6101-6114	M1190045	AG2013 12V
RL6115	M1190005	NR-HD-12V AE5343
		CONNECTORS
J6101, 6102, 6103	P1090255	TMP-JA
J6105	P0090191	B2B-XH-A
J6106	P0090193	B4B-XH-A
J6107	P0090192	B3B-XH-A
P6101	T9205243A	
P6102	T9315913A	
CONTROL UNIT		
Symbol No.	Part No.	Name & Description
	F2785101A	Printed Circuit Board
	C027851AA	PCB with Components
		ICs
Q4001	G1090720	TA78009AP
Q4003	G1090294	μPC7808H
Q4012, 4013	G1090649	M5218L
		TRANSISTORS
Q4004, 4005, 4007	G3104960Y	2SA496Y
Q4006	G3110120Y	2SA1012Y
Q4008-4011, 4014, 4016-4018	G3309450Q	2SC945AQ
Q4015, 4019	G3107330P	2SA733AP
		DIODES
D4001-4018	G2090027	1SS53 Si
		RESISTORS
R4008, 4020, 4036, 4041	J02245102	Carbon film 1/4W 1kΩ SJ
R4002, 4004, 4010	J02245222	〃 〃 〃 2.2kΩ 〃
R4001, 4003, 4007, 4009, 4012, 4022, 4024, 4031, 4032, 4043	J02245472	〃 〃 〃 4.7kΩ 〃
R4014	J02245682	〃 〃 〃 6.8kΩ 〃
R4005, 4006, 4011, 4013, 4017, 4018, 4023, 4025-4027,	J02245103	〃 〃 〃 10kΩ 〃

4029, 4030, 4033, 4035, 4037, 4038, 4042, 4044, 4045		
R4034	J02245473	〃 〃 〃 47kΩ 〃
R4021	J02245104	〃 〃 〃 100kΩ 〃
R4016, 4028, 4040	J02245224	〃 〃 〃 220kΩ 〃
R4015	J02245334	〃 〃 〃 330kΩ 〃
R4019, 4039	J02245564	〃 〃 〃 560kΩ 〃
		CAPACITORS
C4003, 4008, 4010	K13179008	Ceramic 50WV 0.01μF F (DD106F103Z50)
C4001	K13179009	〃 〃 0.047μF 〃 (DD110F473Z50)
C4016	K50177103	Mylar 〃 0.01μF (50F2U103M)
C4011, 4012, 4014, 4015	K50177223	〃 〃 0.022μF (50F2U223M)
C4013	K40179026	Electrolytic 〃 0.22μF (RE-50VR22M)
C4004, 4005, 4009, 4017	K40179014	〃 〃 10μF (RE-50V100M)
C4002	K40149003	〃 25WV 100μF (RE-25V101M)
		INDUCTOR
L4001	L1190123	S6-392K 3.9mH
		CONNECTORS
J4001	P0090197	B08B-XH-A
J4002, 4006	P0090194	B05B-XH-A
J4003	P0090196	B07B-XH-A
J4004	P0090193	B04B-XH-A
J4005	P0090192	B03B-XH-A
	Q9000192	Thermal Conductor
	Q9000284	BUSH-F
	R0115110B	HEATSINK
DISPLAY UNIT		
Symbol No.	Part No.	Name & Description
	F2786000B	Printed Circuit Board
	C027860AA	PCB with Components
		ICs
Q7010	G1090084	μPC78L05
Q7013	G1090546	TMS2370
Q7014	G1090649	M5218L
Q7015	G1090257	MC14066BCP
		TRANSISTORS
Q7001-7004, 7017, 7019-7025	G3304580B	2SC458B
Q7005-7008, 7011, 7012, 7016, 7018	G3107331P	2SA733AP
Q7009	G3304960Y	2SC496Y
		DIODES
D7003, 7008, 7011, 7012	G2090340	1SS83 Si
D7004, 7006, 7007, 7022-7058	G2090237	MA190 〃
D7001	G2090265	RD30EB2 Zener
D7002, 7059	G2090188	HZ5C1 〃
D7005	G2090266	RD3.9EB2 〃
D7013	G2090362	LT-9002D LED

D7014	G2090363	LT-9002N LED
D7015-7018	G2090267	SG238D 〃
D7019	G2090349	LT-9200N 〃
D7020	G2090348	LT-9200H 〃
D7021	G2090347	LT-9200D 〃
D7009, 7010	G2090118	1SS97 Schottky
		CERAMIC RESONATOR
CO7001	H7900150	CSB500E
		FCD
DS7001	G6090059	FIP14CM9
		RESISTORS
R7025	J02245101	Carbon film 1/4W 100Ω SJ
R7040, 7051	J02245471	〃 〃 〃 470Ω 〃
R7064	J00215471	〃 〃 1/8W 470Ω VJ
R7030, 7067	J02245561	〃 〃 1/4W 560Ω SJ
R7050, 7054, 7057, 7058, 7061, 7070	J02245102	〃 〃 〃 1kΩ 〃
R7026	J02245152	〃 〃 〃 1.5kΩ 〃
R7033, 7038	J02245222	〃 〃 〃 2.2kΩ 〃
R7029	J02245332	〃 〃 〃 3.3kΩ 〃
R7003, 7008, 7013, 7018, 7047	J02245562	〃 〃 〃 5.6kΩ 〃
R7001, 7006, 7011, 7016, 7022, 7049, 7053, 7056, 7060, 7066, 7068, 7069, 7072, 7073	J02245103	〃 〃 〃 10kΩ 〃
R7062, 7074	J00215103	〃 〃 1/8W 10kΩ VJ
R7023, 7032, 7037	J02245223	〃 〃 1/4W 22kΩ SJ
R7002, 7004, 7005, 7007, 7009, 7010, 7012, 7014, 7015, 7017, 7019-7021, 7027, 7034, 7039, 7046, 7048, 7052, 7055, 7059, 7063, 7065, 7071, 7075, 7076	J02245473	〃 〃 〃 47kΩ 〃
R7028	J02245563	〃 〃 〃 56kΩ 〃
R7031, 7036, 7042-7045	J02245104	〃 〃 〃 100kΩ 〃
R7024	J02245124	〃 〃 〃 120kΩ 〃
R7035, 7041	J02245105	〃 〃 〃 1MΩ 〃
		CAPACITORS
C7027	K00175470	Ceramic 50WV 47pF SL (DD104SL470J50)
C7026	K00175151	〃 〃 150pF 〃 (DD106SL151J50)
C7006, 7010, 7013, 7018, 7019, 7021, 7023, 7025	K13179008	〃 〃 0.01μF 〃 (DD106F103Z50)
C7016	K13179009	〃 〃 0.047μF 〃 (DD110F473Z50)
C7002	K50177152	Mylar 〃 0.0015μF (50F2U152M)
C7007	K50177222	〃 〃 0.0022μF (50F2U222M)
C7005	K50177153	〃 〃 0.015μF (50F2U153M)
C7004, 7022, 7024	K40179013	Electrolytic 〃 1μF (RE-50V010M)
C7017	K40179009	〃 〃 2.2μF (RE-50V2R2M)

C7001	K40179014	Electrolytic 50WV 10µF (RE-50V100M)
C7012, 7015, 7020	K40129004	〃 16WV 10µF (RE-16V100M)
C7009	K40129008	〃 〃 33µF (RE-16V330M)
C7011, 7014	K40129002	〃 〃 47µF (RE-16V470M)
C7003	K40129007	〃 〃 100µF (RE-16V101M)
		INDUCTORS
L7001, L7002	L1190123	S6-392K 3.9mH
		DC-DC TRANSFORMER
T7001	L3030122	
		SWITCHES
S7001-7017, 7019-7022, 7024-7026, 7029-7031	N5090028	KHH10914
S7018, 7023, 7027, 7028	N4090081	SPH121C16
S7032	N4090082	SPH122C07
		CONNECTORS
J7001, 7003, 7004	P0090191	B02B-XH-A
J7002	P0090192	B03B-XH-A

PS UNIT

Symbol No.	Part No.	Name & Description
	F2787000A	Printed Circuit Board
	C027870AA	PCB with Components
		FET
Q6007	G3801921G	2SK192AGR
		TRANSISTORS
Q6001, 6006	G3304580B	2SC458B
Q6002, 6004, 6009	G3107331P	2SA733AP
Q6003	G3110120Y	2SA1012Y
Q6008	G3109500Y	2SA950Y
Q6010	G3110150G	2SA1015GR
Q6011-6014	G3407170Y	2SD717Y
Q6005	G3106840R	2SA684R
		DIODES
D6001, 6002, 6005, 6007, 6008	G2090306	10E1 Si
D6003	G2090237	MA190 〃
D6006, 6009	G2090111	HZ6C1 Zener
D6004	G3090044	CW12B Thyristor
		THERMISTOR
TH6001	G9090015	SDT-100
		RESISTORS
R6022	J02245560	Carbon film 1/4W 56Ω SJ
R6006, 6008, 6012	J02245471	〃 〃 〃 470Ω 〃
R6023	J02245821	〃 〃 〃 820Ω 〃
R6010, 6016, 6021, 6026	J02245102	〃 〃 〃 1kΩ 〃
R6013	J02245152	〃 〃 〃 1.5kΩ 〃
R6015, 6024, 6025	J02245332	〃 〃 〃 3.3kΩ 〃
R6020	J02245392	〃 〃 〃 3.9kΩ 〃
R6011, 6019, 6028, 6030	J02245103	〃 〃 〃 10kΩSJ
R6031	J01245103	〃 〃 〃 10kΩ TJ
R6014	J02245153	〃 〃 〃 15kΩ SJ
R6007	J02245473	〃 〃 〃 47kΩ 〃
R6002	J02245683	〃 〃 〃 68kΩ 〃
R6017, 6027	J02245104	〃 〃 〃 100kΩ 〃
R6032	J01215104	〃 〃 1/8W 100kΩ TJ
R6001, 6009	J20356102	Metallic 〃 3W 1kΩ
R6018	J30376019	Cement 5W 0.1Ω
R6003-6005	J30376029	〃 〃 0.2Ω
R6029 ■	J32009003	R125 J(Meter Shunt) 0.125Ω
R6029 ▲	J32009004	R025 J(Meter Shunt) 0.025Ω
		POTENTIOMETERS
VR6001, 6002	J50709102	H1052A007 -1KB 1kΩ B
VR6003	J50709472	H1052A011 -4.7KB 4.7KΩ B
VR6004	J51757472	H1052C -4.7KB 4.7KΩ B
		CAPACITORS
C6008	K13179008	Ceramic 50WV 0.01µF F (DD106F103Z50)
C6007, 6014	K13179009	〃 〃 0.047µF 〃 (DD110F103Z50)
C6012	K50170015	Mylar 〃 0.022µF (50F2D223M)
C6005	K50170017	〃 〃 0.047µF (50F2D473M)
C6004	K40179028	Electrolytic 〃 47µF (RE2-50V470M)
C6006	K40169013	〃 35WV 47µF (RE2-35V470M)
C6003	K40179032	〃 50WV 100µF (RE2-50V101M)
C6013	K40149003	〃 25WV 100µF (RE-25V101M)
C6010, 6011	K40149030	〃 〃 330µF (RE2-25V331M)
C6009	K42140004	〃 〃 18000µF (25LP183)
C6001, 6002	K42170004	〃 50WV 18000µF (50L18000)
C6015	K19149023	Barrier Layer 25WV 0.068µF (UAT10X683K-L45AE)
		CONNECTORS
J6001, 6002, 6004	P0090191	B02B-XH-A
P6001	T9205242A	

100W PA UNIT

Symbol No.	Part No.	Name & Description
	F2788000A	Printed Circuit Board
	C027880AA	PCB with Components
		ICs
Q9009	G1090294	µPC7808H
Q9010	G1090549	TL7705CPB
		TRANSISTORS
Q9001	G3319710	2SC1971
Q9002, 9003	G3323950	2SC2395
Q9004, 9005	G3090059	MRF422
Q9006	G3110120Y	2SA1012Y
Q9007, 9008	G3304580B	2SC458B
Q9011	G3408800O	2SD880-O
Q9012	G3109520L	2SA952L
		DIODES
D9002-9005	G2090002	10D10 Si

■ 10W Type
▲ 100W Type

D9001	G2090217	HZ3C1 Zener
		THERMISTOR
TH9001	G9090011	SDT-1000
		RESISTORS
R9020, 9021	J22379006	Metallic film 5W 39Ω
R9009, 9010	J00275159	Carbon film 1/2W 1.5Ω VJ
R9016, 9017	J20306159	Metallic 〃 1W 1.5Ω
R9006	J02245479	Carbon 〃 1/4W 4.7Ω SJ
R9035	J01275180	〃 〃 1/2W 18Ω TJ
R9018, 9019	J20306180	Metallic 〃 1W 18Ω
R9011, 9012	J01275240	Carbon 〃 1/2W 24Ω TJ
R9002	J02245330	〃 〃 1/4W 33Ω SJ
R9008	J01275390	〃 〃 1/2W 39Ω TJ
R9015	J21339003	Metallic 〃 2W 39Ω
	J22359001	〃 〃 3W 39Ω
R9022	J21339004	〃 〃 2W 68Ω
R9001	J02245121	Carbon 〃 1/4W 120Ω SJ
R9013, 9014	J01275121	〃 〃 1/2W 120Ω TJ
R9029	J01275151	〃 〃 〃 150Ω 〃
R9003, 9005	J02245331	〃 〃 1/4W 330Ω SJ
R9036	J01275331	〃 〃 1/2W 330Ω TJ
R9024	J02245102	〃 〃 1/4W 1kΩ SJ
R9007	J01275102	〃 〃 1/2W 1kΩ TJ
R9033	J20306102	Metallic 〃 1W 1kΩ
R9004	J02245152	Carbon 〃 1/4W 1.5kΩSJ
R9025	J02245222	〃 〃 〃 2.2kΩ 〃
R9030-9032	J02245472	〃 〃 〃 4.7kΩ 〃
R9023, 9027, 9028, 9034	J02245103	〃 〃 〃 10kΩ 〃
R9037	J01245103	〃 〃 〃 10kΩ TJ
		POTENTIOMETER
VR9001	J51727102	H1021A307 -1KB 1kΩ B
		CAPACITORS
C9024, 9025	K30279045	Dipped Mica 500WV 560pF (DM19D561J5)
C9017	K30279092	〃 〃 〃 750pF (DM19D751J5)
C9018, 9019	K30279097	〃 〃 〃 5000pF (DM19D502J5)
C9014	K00275820	Ceramic 〃 82pF SL (DD109SL820J500)
C9007	K10176332	〃 50WV 0.0033μF B (DD107B332K50)
C9010, 9011	K10179038	〃 〃 0.0047μF B (DD108B472K50)
C9006, 9015, 9031 9035	K13179008	〃 〃 0.01μF F (DD106F103Z50)
C9001, 9003, 9005, 9008, 9012, 9013, 9016, 9027, 9029, 9032, 9034, 9038, 9039	K13179009	〃 〃 0.047μF 〃 (DD110F473Z50)
C9020, 9023	K10246103	〃 250WV 0.01μF (CD125XB103K250)
C9036	K19149025	Barrier Layer 25WV 0.1μF (UAT10X104K-L45AE)
C9009, 9042	K50177103	Mylar 50WV 0.01μF (50F2U103M)
C9021, 9022	K55239001	〃 200WV 0.047μF (PRA473K200)
C9041	K40179013	Electrolytic 50WV 1μF (RE-50V010M)

C9002, 9004, 9028, 9030, 9037, 9040	K40129004	Electrolytic 16WV 10μF (RE-16V100M)
C9043	K40129016	〃 〃 22μF (RE-16V220M)
C9033	K40169020	〃 35WV 330μF (RE2-35V331M)
		INDUCTORS
L9001, 9003, 9009	L1020015	
L9002	L1190235	LAL04NA6R8K 6.8μH
L9004, 9005, 9007, 9008	L1020035A	
L9006	L0021432	
L9010	L1190037	LAL04NA151K 150μH
		TRANSFORMERS
T9001	L0021402	
T9002	L0021403A	
T9003	L0021606	
		CONNECTORS
J9001, 9002	P1090255	TMP-JA
J9003	P0090194	B05B-XH-A
J9004, 9005, 9011	P0090191	B02B-XH-A
J9007, 9008, 9009, 9010	R0100970	Terminal
		FUSE
F9001	Q0000012	6A
		FUSE HOLDER
FH9001	P2000029	AFP226
	Q9000192	30F-T0-220 Insulator
	Q9000110	YC-40B 〃
	R0102810	Nut

10W PA UNIT

Symbol No.	Part No.	Name & Description
	F2789000	Printed Circuit Board
	C027890AA	PCB with Components
		IC
Q8008	G1090080	μPD 78L05
		TRANSISTORS
Q8001	G3320530	2SC2053
Q8002	G3321660	2SC2166
Q8003, 8004	G3090071	MRF485
Q8005	G3110120Y	2SA1012Y
Q8006, 8007	G3304580B	2SC458B
Q8009	G3408820Q	2SD882Q
		DIODES
D8001	G2090217	HZ3C1 Zener
D8002	G2090306	10E10 Si
D8003	G2015880	1S1588 〃
		RESISTORS
R8005	J02245479	Carbon film 1/4W 4.7Ω SJ
R8015, 8016	J01275150	〃 1/2W 15Ω TJ
R8014	J01275390	〃 〃 〃 39Ω 〃
R8004	J02245470	〃 1/4W 47Ω SJ
R8027	J20336680	Metallic 〃 2W 68Ω
R8012	J02245101	Carbon 〃 1/4W 100Ω SJ
R8001, 8006	J01245121	〃 〃 〃 120Ω TJ
R8017, 8018	J20336151	Metallic 〃 2W 150Ω
R8007, 8009, 8026	J02245221	Carbon 〃 1/4W 220Ω SJ

R8003, 8008	J02245471	Carbon film 1/4W 470Ω SJ
R8010, 8011	J01245821	〃 〃 〃 820Ω TJ
R8020	J02245102	〃 〃 〃 1kΩ SJ
R8013	J01275102	〃 〃 1/2W 1kΩ TJ
R8028	J20306102	Metallic 〃 1W 1kΩ
R8002	J01245122	Carbon film 1/4W 1.2kΩTJ
R8022	J02245220	〃 〃 〃 2.2kΩSJ
R8023	J02245472	〃 〃 〃 4.7kΩ 〃
R8019, 8021, 8024, 8025	J02245103	〃 〃 〃 10kΩ 〃
		POTENTIOMETER
VR8001	J51727222	H1021A309-2.2KB 2.2KΩ B
		CAPACITORS
C8003	K10176222	Ceramic 50WV 0.0022μF B (DD106B222K50)
C8001, 8018, 8029	K13179008	〃 〃 0.01μF F (DD106F103Z50)
C8002, 8004-8006, 8008-8010, 8012, 8013, 8016, 8019, 8023, 8025, 8027, 8028, 8031, 8032	K13179009	〃 〃 0.047μF 〃 (DD110F473Z50)
C8020, 8021	K50177154	Mylar 〃 0.15μF (50F2U154M)
C8007	K40129004	Electrolytic 16WV 10μF (RE-16V100M)
C8024	K40149008	〃 25WV 〃 (RE-25V100M)
C8026, 8030	K40129008	〃 16WV 33μF (RE-16V330M)
C8017	K40169020	〃 35WV 330μF (RE2-35V331M)
		INDUCTORS
L8001	L1190313	LAL04NAR47M 0.47μH
L8002	L1190131	〃 1R8M 1.8μH
L8003, 8008	L1190330	〃 390K 39μH
L8004, 8006	L1020032	
L8005	L1020015	
L8007	L1020666A	
		TRANSFORMERS
T8001	L0020789A	
T8002	L0021607	
T8003	L0021608	
		CONNECTORS
J8001, 8002	P1090255	TMP-JA
J8003	P0090194	B05B-XH-A
J8004, 8005, 8011	P0090191	B02B-XH-A
J8007-8010	R0100970	TERMINAL
		FUSE
F8001	Q0000012	6A
		FUSE HOLDER
FH8001	P2000029	AFP 226
	Q9000192	30F-T0-220 Insulator
	Q9000110	YC-40B 〃
	R0103760	HEATSINK
	R0102810	Nut
	R7116450B	Press Board

TRV CNTL UNIT

Symbol No.	Part No.	Name & Description
	F2790000	Printed Circuit Board
	C027900AA	PCB with Components
		CONNECTORS
J4201-4204	P1090210	TMP-JV
J4205, 4207, 4209, 4210	P0090192	B03B-XH-A
J4206	P0090194	B05B-XH-A
J4208	P0090193	B04B-XH-A
MJ4201-4203	P4090021	CR7C-28DB-4DS

TUNER UNIT

Symbol No.	Part No.	Name & Description
	F2791000A	Printed Circuit Board
	C027910AA	PCB with Components
		ICs
Q5003	G1090257	MC14066BCP
Q5004	G1090552	μPD277C
Q5005	G1090553	μPD7507C-070 (Y-16)
Q5006	G1090088	MC14028BCP
Q5007, 5008	G1090029	MC14071BCP
Q5009	G1090721	M54563P
Q5020, 5021	G1090716	TH3C10
Q5022	G1090294	μPC7808H
Q5023	G1090848	μPC78L05J
		FET
Q5001	G3801520C	2SK152-3
		TRANSISTORS
Q5002, 5010-5015	G3304580B	2SC458B
Q5016-5019	G3090074	BA1A4M
		DIODES
D5001	G2090188	HZ5C1 Zener
D5002	G2090223	1SS101 Schottky
D5003-5009, 5011, 5012, 5014, 5017	G2090027	1SS53 Si
D5010, 5013, 5015	G2090306	10E1 〃
D5016	G2090118	1SS97 Schottky
		RESISTORS
R5013	J02245221	Carbon film 1/4W 220Ω SJ
R5011	J02245102	〃 〃 〃 1kΩ 〃
R5081, 5082, 5085, 5086	J01245102	〃 〃 〃 1kΩ TJ
R5017	J02245182	〃 〃 〃 1.8kΩSJ
R5005	J02245332	〃 〃 〃 3.3kΩ 〃
R5079, 5080	J01245332	〃 〃 〃 3.3kΩTJ
R5063, 5065, 5067, 5069, 5083, 5084, 5088	J02245472	〃 〃 〃 4.7kΩSJ
R5087	J01245472	〃 〃 〃 4.7kΩTJ
R5091	J01245103	〃 〃 〃 10kΩ 〃
R5007, 5008, 5018-5021, 5049, 5050, 5052, 5053 5064, 5066, 5068, 5070, 5077, 5078	J02245103	〃 〃 〃 10kΩ SJ
R5073	J02245123	〃 〃 〃 12kΩ 〃
R5004	J02245333	〃 〃 〃 33kΩ 〃
R5003, 5022-5031	J02245473	〃 〃 〃 47kΩ 〃
R5076	J01245473	〃 〃 〃 47kΩTJ

R5041-5047	J20249002	Metallic film 1/4W 49.9kΩ
R5016	J02245563	Carbon 〃 〃 56kΩ SJ
R5001, 5002	J02245823	〃 〃 〃 82kΩ 〃
R5075	J01245823	〃 〃 〃 〃 TJ
R5006, 5071, 5072, 5074	J02245104	〃 〃 〃 100kΩSJ
R5032-5040	J20249045	Metallic 〃 〃 100kΩ
R5012	J02245154	Carbon 〃 〃 150kΩSJ
R5051, 5059-5061	J02245224	〃 〃 〃 220kΩ 〃
R5009	J02245474	〃 〃 〃 470kΩ 〃
R5048, 5089	J02245684	〃 〃 〃 680kΩ 〃
R5010, 5014, 5055-5058	J02245105	〃 〃 〃 1MΩ 〃
R5090	J01245105	〃 〃 〃 1MΩ TJ
		BLOCK RESISTORS
RB5001	J40900010	RK1/16 B4R103 1kΩ×4
RB5002	J40900027	RA1/16 B7R224 220kΩ×7
		POTENTIOMETERS
VR5001	J51723104	H1051A019-100KB 100kΩ B
VR5002, 5003, 5004	J51723103	H1051A013-10KB 10kΩ 〃
		CAPACITORS
C5028	K02175330	Ceramic 50WV 33pF CH (DD105CH330J50)
C5016	K02175101	〃 〃 100pF 〃 (DD107CH102K50)
C5008, 5012, 5015, 5066	K10176102	〃 〃 0.001µF B (DD104B102K50)
C5062-5065	K13179008	〃 〃 0.01µF F (DD106F103Z50)
C5001, 5002, 5006, 5009-5011, 5013, 5020-5023, 5027, 5030, 5032, 5034, 5035, 5055	K13179010	〃 〃 0.022µF 〃 (DD108F223Z50)
C5003, 5036-5045, 5058-5061	K13179009	〃 〃 0.047µF 〃 (DD110F473Z50)
C5004	K30275100	Dipped Mica 500WV 10pF (LCQ11100J5)
C5054	K30309038	〃 〃 1KWV 18pF (DML2 180J10)
C5053	K30309037	〃 〃 〃 30pF (DML2 300J10)
C5052	K30309036	〃 〃 〃 39pF (DML2 390J10)
C5051	K30309001	〃 〃 〃 75pF (DML2 750J10)
C5005	K30275101	〃 〃 500WV 100pF (LCQ12101J5)
C5049, 5050	K30309039	〃 〃 1KWV 110pF (DML2 111J10)
C5057	K30309035	〃 〃 〃 120pF (DML2 121J10)
C5056	K30309004	〃 〃 〃 150pF (DML2 151J10)
C5046	K30309006	〃 〃 〃 180pF (DML2 181J10)
C5048	K30309011	〃 〃 〃 300pF (DML2 301J10)
C5047	K30309002	〃 〃 〃 820pF (DML2 821J10)
C5026	K40179001	Electrloytic 50WV 1µF (RC2-50V010M)
C5067	K40167474	〃 35WV 0.47µF (RE-35V222M)

C5007	K40179006	Tantalum 50WV 2.2µF (RC2-50V2R2M)
C5029	K41140476	〃 25WV 47µF (25TL470)
C5033	K40109015	〃 10WV 100µF (RC2-10V101M)
C5031	K41120227	〃 16WV 220µF (16TL221)
		BLOCK CAPACITORS
C5018, 5019	K80000001	0.01µF×4 (CA1034)
C5017	K80000002	0.01µF×6 (CA1036)
C5024, 5025	K80000007	0.01µF×8 (CA1038)
		VALIABLE CAPACITORS
VC5001, 5002	K90000044	YV-300 300pF
		INDUCTORS
L5001, 5002	L0021603	5.31µH
L5003	L0021602	2.50µH
L5004	L0021604	1.66µH
L5005	L0021601	0.721µH
L5006	L1190017	FL5H102K 1mH
L5007, 5008	L1190189	LAL03NA102K 〃
		RELAYS
RL5001-5011	M1190069	AGP2013
		CONNECTORS
J5001	P0090205	S04B-XH-A
J5002	P0090206	S05B-XH-A
J5003	P0090208	S07B-XH-A
P5001	T9315911A	
P5002	T9315910A	
P5003	T9205422	
		SWITCH
SW5001	N6090064	SS-912
		BATTERY
BA5001	Q9000106	CR-2025-WT2
		MOTORS
MO5001, 5002	Q9000360	RK16312M0 50KΩ A
	Q5000016	TP-E Terminal Post
	S1000003	116-4 Coupler
	R0803320A	Shield Case
	R0803330A	Shield Cover
	R0114900	Holder
	R7116460	Press Board
	R7079690	

TONE BURST UNIT

Symbol No.	Part No.	Name & Description
		TONE BURST UNIT
	F2797000	Printed Circuit Board
	C027970AA	PCB with Components
		IC
Q4104	G1090239	TC5082P-G
		TRANSISTORS
Q4101, 4102	G3304580B	2SC458B
Q4103	G3107331Q	2SA733AQ
		DIODES
D4101-4104	G2090237	MA190
		CRYSTAL
X4101 ▲	H0101982	HC-18/T 7.168MHz
X4101 ■	H0101983	〃 7.3728MHz
		RESISTORS
R4109	J02245101	Carbon film 1/4W 100Ω SJ
R4104	J02245471	〃 〃 〃 470Ω 〃
R4108	J02245222	〃 〃 〃 2.2kΩ 〃
R4105	J02245472	〃 〃 〃 4.7kΩ 〃
R4110, 4111	J02245103	〃 〃 〃 10kΩ 〃
R4102, 4103, 4106, 4107	J02245473	〃 〃 〃 47kΩ 〃
R4101	J02245155	〃 〃 〃 1.5MΩ 〃
		POTENTIOMETER
VR4101	J51745103	H0651A013-10KB 10KΩ B
		CAPACITORS
C4102	K00175150	Ceramic 50WV 15pF SL (DD104SL150J50)
C4103, 4104	K00175330	〃 〃 33pF 〃 (DD104SL330J50)
C4105	K13179008	〃 〃 0.01μF 〃 (DD106F103Z50)
C4107	K50170014	Mylar 〃 0.01μF (50F2D103M)
C4108	K40179013	Electrolytic 〃 1μF (RE-50V010M)
C4101	K40179009	〃 〃 2.2μF (RE-50V2R2M)
C4106	K40129004	〃 16WV 10μF (RE-16V100M)
		SWITCH
S4101	N6090033	SSS21200
		CONNECTORS
J4101	P0090191	B02B-XH-A
J4102	P0090195	B06B-XH-A
	S6000092	KGLS-12R Spacer

SW A UNIT

Symbol No.	Part No.	Name & Description
	F2802101	Printed Circuit Board
	C028021AA	PCB with Components
		DIODES
D7401-7405	G2090237	MA190 Si
		POTENTIOMETER
VR7401	J51745103	H0651A013-10KB 10KΩ B
		SWITCH
S7401	N4090102	SUJ A1
		CONNECTOR
	P0090191	B02B-XH-A

SW B UNIT

Symbol No.	Part No.	Name & Description
	F2802102	Printed Circuit Board
	C028022AA	PCB with Components
		DIODES
D7501-7503	G2090267	SG238D LED
D7504	G2090268	SY438D 〃
D7505	G2090269	SR538D 〃
		RESISTORS
R7501-7505	J01215102	Carbon film 1/8W 1kΩ TJ
		SWITCH
S7501	N4090103	SEA51A

SW C UNIT

Symbol No.	Part No.	Name & Description
	F2802103	Printed Circuit Board
	C028023AA	PCB with Components
		DIODES
D7601	G2090188	HZ5C1 Zener
		SWITCHES
S7601	N4090104	SUJ12
S7602	N0190137	SBM1025 (SRBM25)

VR A UNIT

Symbol No.	Part No.	Name & Description
	F2802104A	Printed Circuit Board
	C028024AA	PCB with Components
		RESISTORS
R7101, 7102	J02245101	Carbon film 1/4W 100Ω SJ
		POTENTIOMETERS
VR7101	J62800088	RKBBB0 10KB/10KB K12B60026 10KB/μCB
VR7102	J63800004	RKBBC1 50KB/10KB×2 K12C1101Y 50KB/10KB×2/SW
VR7103	J62800089	RKBBB0 5KB/10KA K12B60026 5KB/10KA
		CONNECTORS
J7101	P0090191	B02B-XH-A
J7102	P1090522	SG-4117

▲ 1750Hz
■ 1800Hz

VR B UNIT		
Symbol No.	Part No.	Name & Description
	F2802105A	Printed Circuit Board
	C028025AA	PCB with Components
		RESISTORS
R7203	J02245182	Carbon film 1/4W 1.8kΩ SJ
R7201	J02245222	〃 〃 〃 2.2kΩ 〃
R7202	J02245272	〃 〃 〃 2.7kΩ 〃
R7204	J02245103	〃 〃 〃 10kΩ 〃
R7205	J02245183	〃 〃 〃 18kΩ 〃
		POTENTIOMETERS
VR7201	J62800090	RKBBB0 10KA/10KB 10KΩA/10KΩ B
VR7202	J62800091	2KC/5KB 2KΩC/5KΩ B
VR7203	J60800125	RKBBA5 250KB/2-3 SW 250KΩB/2-3 SW
		CAPACITOR
C7201	K50177683	Mylar 50WV 0.068μF (50F2U683M)
		CONNECTORS
J7201-7203	P0090191	B02B-XH-A

VR C UNIT		
Symbol No.	Part No.	Name & Description
	F2802106	Printed Circuit Board
	C028026AA	PCB with Components
		TRANSISTOR
Q7301	G3319590Y	2SC1959Y
		RESISTORS
R7307	J02245150	Carbon film 1/4W 15Ω SJ
R7306	J02245330	〃 〃 〃 33Ω 〃
R7303	J02245472	〃 〃 〃 4.7kΩ 〃
R7308	J02245822	〃 〃 〃 8.2kΩ 〃
R7301, 7302	J02245103	〃 〃 〃 10kΩ 〃
R7304, 7309, 7310	J02245153	〃 〃 〃 15kΩ 〃
R7305	J02245223	〃 〃 〃 22kΩ 〃
		POTENTIOMETERS
VR7301, 7302, 7303	J60800123	RK9A10 10KB 10kΩ B
VR7304	J61800019	RK9AD0 5KB×2 5kΩB×2
		CAPACITORS
C7301	K40179027	Electrolytic 50WV 0.33μF (RE-50VR33M)
C7302	K40179013	〃 〃 1μF (RE-50V010M)
		SWITCHES
S7301	N0190133	SBM 1024
S7302	N0190134	SBM 1023
		CONNECTORS
J7301, 7302, 7304	P0090191	B02B-XH-A
J7303	P0090192	B03B-XH-A
		TERMINAL POSTS
TP7301, 7302	Q5000050	TP-K

ACCESSORIES		
Symbol No.	Part No.	Name & Description
		AC POWER CORD
	T9013280	2 wire, 2prong plug
	T9013282	3 wire, 3 prong plug (UL)
	T9013283	3 wire, 3prong Australian plug
	T9013285	3 wire, 2prong EU plug
		FUSE
	Q0000007	10A 100-117V AC
	Q0000005	5A 220-234V AC
		PLUGS
	PP0090008	S-H3603
	P0090544	T-1447
	P0090034	P2204/C107
	R3054620	Foot 30A
	R7054630A	Pad

FEX-767-6

MAIN CHASSIS		
Symbol No.	Part No.	Name & Description
		RECEPTACLE
J1	P1090352	FM-MDR-MI (Antenna)
MAIN UNIT		
Symbol No.	Part No.	Name & Description
	F2798101B	Printed Circuit Board
	C027980A	PCB with Components
		ICs
Q1001	G1090475	M57735
Q1002	G1090080	μPC 78L08
		FETs
Q1004	G4800730Y	3SK73Y
Q1005	G4800740L	3SK74Y
Q1006	G3801250	2SK125
		TRANSISTORS
Q1003	G3320530	2SC2053
Q1007	G3305350B	2SC535B
Q1008	G3320260	2SC2026
Q1009	G3324071	2SC2407A
Q1010, 1011	G3106840	2SA684
Q1012	G3320010	2SC2001
		DIODES
D1001-1006, 1020	G2090118	1SS97 Schottky
D1016, 1017, 1021	G2090237	MA190 Si
D1007	G2015550	1S1555 〃
D1008-1015	G2090107	1T25 Varactor
D1018	G2090135	ND487C2-3R Schottky Ring
D1019, 1022	G2070018	MC2838T2B
D1023	G2090003	V06B
		THERMISTOR
TH1001	G9090002	D22A
		RESISTORS
R1062, 1065	J02245100	Carbon film 1/4W 10Ω SJ
R1049	J02245470	〃 〃 〃 47Ω 〃
R1001	J01215560	〃 〃 1/8W 56Ω TJ
R1004	J02245101	〃 〃 1/4W 100Ω SJ
R1048	J01275101	〃 〃 1/2W 100Ω TJ
	J02245681	〃 〃 1/4W 680Ω SJ
	J01215332	〃 〃 1/8W 3.3kΩTJ
R1063, 1064	J24205000	Chip RMC1/10-000J 0Ω
R1050, 1051, 1066	J24205100	〃 〃 -100J 10Ω
R1047	J24205220	〃 〃 -220J 22Ω
R1005, 1015, 1025, 1032	J24205470	〃 〃 -470J 47Ω
R1006, 1022, 1031, 1033, 1042, 1044, 1071	J24205101	〃 〃 -101J 100Ω
R1052	J24205121	〃 〃 -121J 120Ω
	J24205151	〃 〃 -151J 150Ω
R1036	J24205331	〃 〃 -331J 330Ω
R1007, 1017, 1028, 1030, 1039, 1043	J24205471	〃 〃 -471J 470Ω
R1002	J24205561	〃 〃 -561J 560Ω
R1018, 1023, 1057, 1061	J24205102	〃 〃 -102J 1kΩ
R1003	J24205122	〃 〃 -122J 1.2kΩ
R1055	J24205222	〃 〃 -222J 2.2kΩ
R1035, 1041, 1046, 1053, 1068	J24205332	〃 〃 -332J 3.3kΩ 〃 〃 -472J 4.7kΩ
R1040, 1045	J24205472	〃 〃 -682J 6.8kΩ
R1054, 1056, 1058	J24205682	

R1008, 1034	J24205103	〃 〃 -103J 10kΩ
R1020	J24205153	〃 〃 -153J 15kΩ
R1011	J24205223	〃 〃 -223J 22kΩ
R1009	J24205273	〃 〃 -273J 27kΩ
R1069	J24205333	〃 〃 -333J 33kΩ
R1010, 1012-1014, 1016, 1019, 1024, 1026, 1027	J24205104	〃 〃 -104J 100kΩ
R1067	J24205124	〃 〃 -124J 120kΩ
R1021	J24205225	〃 〃 -225J 2.2MΩ
		POTENTIOMETERS
VR1001-1004	J51745473	H0651A017-47KB 47kΩ B
		CAPACITORS
C1038	K22170202	Chip Ceramic 50WV 1pF CH (C2012 CH1H 010CFA)
C1057	K22170204	〃 〃 〃 3pF 〃 (C2012 CH1H 030CFA)
C1036, 1040, 1055, 1059, 1092-1095	K22170205	〃 〃 〃 4pF 〃 (C2012 CH1H 040CFA)
C1054	K22170215	〃 〃 〃 15pF 〃 (C2012 CH1H 150JFA)
C1026, 1096	K22170217	〃 〃 〃 18pF 〃 (C2012 CH1H 180JFA)
C1035, 1042	K22170223	〃 〃 〃 33pF 〃 (C2012 CH1H 330JFA)
C1091	K22170225	〃 〃 〃 39pF 〃 (C2012 CH1H 390JFA)
C1033, 1104	K22170227	〃 〃 〃 47pF 〃 (C2012 CH1H 470JFA)
C1100	K22170229	〃 〃 〃 56pF 〃 (C2012 CH1H 560JFA)
C1019	K22170233	〃 〃 〃 82pF 〃 (C2012 CH1H 820JFA)
C1009, 1010, 1034, 1037, 1039, 1044, 1046, 1047, 1051, 1056, 1058, 1105	K22170235	〃 〃 〃 100pF 〃 (C2012 CH1H 101JFA)
C1008	K22170241	〃 〃 〃 180pF 〃 (C2012 CH1H 181JFA)
C1032, 1041, 1045, 1070, 1076, 1080, 1082, 1103, 1107	K22170805	〃 〃 〃 0.001μF B (C2012 B1H 102MFA)
C1004-1007, 1011, 1014, 1016, 1021, 1024, 1029, 1030, 1043, 1048, 1050, 1052, 1053, 1060, 1061, 1064, 1066-1068, 1074, 1075, 1077, 1079, 1081, 1083-1090, 1097, 1102, 1108	K22170817	〃 〃 〃 0.01μF B (C2012 B1H 103MFA)
	K02175470	Ceramic disc 50WV 47pF CH (DD106CH470J50)
	K02175101	〃 〃 〃 100pF 〃 (DD107CH101J50)
C1013, 1015, 1017, 1018, 1020, 1023, 1027, 1078	K40129004	Electrolytic 16WV 10μF (RE-16V 100M)
C1012	K40129049	〃 〃 470μF
		(RE2-16V 471M)
		TRIMMER CAPACITORS
TC1001	K91000085	CTZ51C 10pF
TC1002	K91000117	CTZ51H 70pF
TC1003	K91000089	CTZ51G 50pF

		INDUCTORS
L1005-1007, 1022	L0020824	
L1002	L0021631	
L1003, 1004, 1018, 1019	L1190138	LAL04NA100K 10µH
L1008	L1020663	
L1009, 1010, 1012	L1020673	
L1011	L0020724	
L1013	L1020683	
L1014	L0020340	
L1015	L1020680	LAL04NA 220K 22µH
L1016, 1017, 1020, 1021	L1190327	
		TRANSFORMERS
	L0020825	
T1001-1008, 1010	L0021462	
T1011, 1012	L0020857	
T1013		
		RELAY
	M1190052	MR-62-12S
RL1001		
		MINI CONNECTORS
	P0090520	3022-03B
J1001	P0090594	3022-05B
J1002		
		TERMINAL POSTS
	Q5000050	TP-K

LOCAL UNIT

Symbol No.	Part No.	Name & Description
	F2799101A	Printed Circuit Board
	C027990A	PCB with Components
		IC
Q2006	G1090649	M5218L
		FETs
Q2001, 2002	G3802410Y	2SK241Y
		TRANSISTORS
Q2003	G3326207B	2SC2620QB
Q2004	G3319230O	2SC1923O
Q2005	G3316237E	2SC1623-T2BL5
		DIODES
D2001, 2006	G2090237	MA190 Si
D2002-2005	G2090107	1T25 Varactor
		RESISTORS
R2009	J01245470	Carbon film 1/4W 47Ω TJ
R2008	J24205000	Chip RMC 1/10T-000J 0Ω
R2015, 2022	J24205220	〃 〃 -220J 22Ω
R2018, 2025, 2026	J24205470	〃 〃 -470J 47Ω
R2033	J24205680	〃 〃 -680J 68Ω
R2023, 2035	J24205151	〃 〃 -151J 150Ω
R2016, 2024	J24205331	〃 〃 -331J 330Ω
R2001, 2004, 2005, 2027, 2029	J24205471	〃 〃 -471J 470Ω
R2012, 2019, 2032	J24205102	〃 〃 -102J 1kΩ
R2028	J24205152	〃 〃 -152J 1.5kΩ
R2014, 2020	J24205332	〃 〃 -332J 3.3kΩ
R2013	J24205682	〃 〃 -682J 6.8kΩ
R2021, 2030, 2031	J24205103	〃 〃 -103J 10kΩ
	J24205153	〃 〃 -153J 15kΩ
	J24205223	〃 〃 -223J 22kΩ
R2002, 2003	J24205473	〃 〃 -473J 47kΩ
R2006, 2007, 2010, 2011, 2017	J24205104	〃 〃 -104J 100kΩ

		POTEMTIOMETER
VR2001	J51745103	H0651A013-10KB 10kΩB
		CAPACITORS
C2013	K22170201	Chip Ceramic 50WV 0.5pF CH (C2012 CH1H 0R5CFA)
C2026	K22170202	〃 〃 〃 1pF 〃 (C2012 CH1H 010CFA)
C2010	K22170205	〃 〃 〃 4pF 〃 (C2012 CH1H 040CFA)
C2008, 2011, 2015, 2019	K22170207	〃 〃 〃 6pF 〃 (C2012 CH1H 060DFA)
C2003	K22170211	〃 〃 〃 10pF 〃 (C2012 CH1H 100DFA)
C2006, 2012, 2014, 2018	K22170213	〃 〃 〃 12pF 〃 (C2012 CH1H 120JFA)
C2025, 2028	K22170219	〃 〃 〃 22pF 〃 (C2012 CH1H 220JFA)
C2016	K22170235	〃 〃 〃 100pF 〃 (C2012 CH1H 101JFA)
C2007, 2022	K22170805	〃 〃 〃 0.001µF B (C2012 B1H 102MFA)
C2001, 2004, 2005, 2009, 2017, 2020, 2021, 2023, 2027, 2029, 2030	K22170817	〃 〃 〃 0.01µF 〃 (C2012 B1H 103MFA)
C2032	K02173070	Ceramic disc 50WV 7pF CH (DD104CH 070D50)
C2002	K10176102	〃 〃 〃 0.001µF B (DD104B102K50)
C2031	K40129004	Electrolytic 16WV 10µF (RE-16V 100M)
		INDUCTORS
L2001, 2003	L1190329	LAL04NA 330K 33µH
L2002	L1190138	LAL04NA 100K 10µH
L2004	L1190131	LAL04NA 1R8M 1.8µH
		TRANSFORMERS
T2001	L0020825	
T2002-2005	L0021632	
T2006, 2007	L0021633	
		MINI CONNECTORS
J2001	P1090425	5124-03BH
J2002	P1090427	5124-05BH
		TERMINAL POSTS
	Q5000050	TP-K

MAIN CHASSIS		
Symbol No.	Part No.	Name & Description
		RECEPTACLE
J1	P1090352	FM-MDR-MI (Antenna)

MAIN UNIT		
Symbol No.	Part No.	Name & Description
	F2798101B	Printed Circuit Board
	C027981A	PCB with Components
		ICs
Q1001	G1090295	M57713
Q1002	G1090080	μPC78L08
		FETs
Q1004	G4800820	3SK82
Q1005	G4800740L	3SK74Y
Q1006	G3801250	2SK125
		TRANSISTORS
Q1003	G3325380	2SC2538
Q1007	G3305350B	2SC535B
Q1008	G3320260	2SC2026
Q1009	G3324071	2SC2407A
Q1010, 1011	G3106840	2SA684
Q1012	G3320010	2SC2001
		DIODES
D1001-1004	G2090118	1SS97 Schottky
D1005, 1006, 1016, 1017, 1020, 1021	G2090237	MA190 Si
D1007	G2015550	1S1555 〃
D1008-1015	G2090107	1T25 Varactor
D1018	G2090135	ND487C2-3R Schottky Ring
D1019, 1022	G2070018	MC2838T2B Si
D1023	G2090003	V06B 〃
D1024	G2090340	1SS83 〃
		THERMISTOR
TH1001	G9090002	D22A
		RESISTORS
R1062, 1065	J02245100	Carbon film 1/4W 10Ω SJ
R1004, 1049	J02245470	〃 〃 〃 47Ω 〃
R1048	J01275101	〃 〃 1/2W 100Ω TJ
R1001	J01215221	〃 〃 1/8W 220Ω 〃
	J02245681	〃 〃 1/4W 680Ω SJ
	J01215102	〃 〃 1/8W 1kΩ TJ
	J01215332	〃 〃 〃 3.3kΩ 〃
	J01215473	〃 〃 〃 47kΩ 〃
R1030, 1059	J24205000	Chip RMC1/10-000J 0Ω
R1050, 1051, 1066	J24205100	〃 〃 -100J 10Ω
R1047	J24205220	〃 〃 -220J 22Ω
R1015, 1025, 1032	J24205470	〃 〃 -470J 47Ω
R1006, 1022, 1031, 1033, 1042, 1044, 1071	J24205101	〃 〃 -101J 100Ω
R1052	J24205121	〃 〃 -121J 120Ω
R1005, 1060, 1070	J24205221	〃 〃 -221J 220Ω
R1036	J24205331	〃 〃 -331J 330Ω
R1002, 1007, 1017, 1028, 1029, 1039, 1043	J24205471	〃 〃 -471J 470Ω
R1018, 1023, 1057, 1061, 1072	J24205102	〃 〃 -102J 1kΩ
R1003	J24205122	〃 〃 -122J 1.2kΩ
R1055	J24205222	〃 〃 -222J 2.2kΩ
R1035, 1041, 1046, 1053, 1068	J24205332	〃 〃 -332J 3.3kΩ
R1040, 1045	J24205472	〃 〃 -472J 4.7kΩ
R1054, 1056, 1058	J24205682	〃 〃 -682J 6.8kΩ
R1008, 1009, 1034	J24205103	〃 〃 -103J 10kΩ
R1020	J24205153	〃 〃 -153J 15kΩ
R1011	J24205223	〃 〃 -223J 22kΩ
R1069	J24205473	〃 〃 -473J 47kΩ
R1010, 1012-1014, 1016, 1019, 1024, 1026, 1027	J24205104	〃 〃 -104J 100kΩ
R1067	J24205124	〃 〃 -124J 120kΩ
R1021	J24205225	〃 〃 -225J 2.2MΩ
		POTENTIOMETERS
VR1001-1004	J51745473	H0651A017-47KB 47kΩ B
		CAPACITORS
C1028	K22170202	Chip Ceramic 50WV 1pF CH (C2012 CH1H 010CFA)
C1038	K22170203	〃 〃 〃 2pF 〃 (C2012 CH1H 020CFA)
C1036, 1040, 1055, 1059	K22170205	〃 〃 〃 4pF 〃 (C2012 CH1H 040CFA)
C1019	K22170206	〃 〃 〃 5pF 〃 (C2012 CH1H 050CFA)
C1046, 1051, 1056, 1058	K22170208	〃 〃 〃 7pF 〃 (C2012 CH1H 070DFA)
C1034, 1037	K22170309	〃 〃 〃 8pF UJ (C2012 UJ1H 080DFA)
C1039, 1109	K22170209	〃 〃 〃 8pF CH (C2012 CH1H 080DFA)
C1044	K22170211	〃 〃 〃 10pF 〃 (C2012 CH1H 100DFA)
C1035, 1042, 1054, 1104	K22170215	〃 〃 〃 15pF 〃 (C2012 CH1H 150JFA)
C1009, 1010, 1045, 1105	K22170223	〃 〃 〃 33pF 〃 (C2012 CH1H 330JFA)
C1101	K22170225	〃 〃 〃 39pF 〃 (C2012 CH1H 390JFA)
C1008, 1033	K22170227	〃 〃 〃 47pF 〃 (C2012 CH1H 470JFA)
C1106	K22170231	〃 〃 〃 68pF 〃 (C2012 CH1H 680JFA)
C1047	K22170235	〃 〃 〃 100pF 〃 (C2012 CH1H 101JFA)
C1005, 1006, 1011, 1014, 1016, 1021, 1024, 1025, 1030-1032, 1041, 1043, 1049, 1050, 1052, 1060-1062, 1070, 1076, 1077, 1079-1082, 1103	K22170805	〃 〃 〃 0.001μF B (C2012 B1H 102MFA)
C1004, 1007, 1053, 1064, 1066-1068, 1074, 1075, 1083-1090, 1102, 1110		〃 〃 〃 0.01μF 〃
C1048	K22171008	〃 〃 〃 0.047μF F (C2012 F1H 473ZFA)
	K02175150	Ceramic disc 50WV 15pF CH (DD104CH 150J50)
	K02175330	〃 〃 〃 33pF 〃 (DD105CH 330J50)
	K13179008	〃 〃 〃 0.01μF F (DD106F 103Z50)

C1013, 1015, 1017, 1018, 1020, 1023, 1027, 1078	K40129004	Electrolytic 16WV 10μF (RE-16V 100M)
C1012	K40129049	〃 〃 470μF (RE2-16V 471M)
		TRIMMER CAPACITORS
TC1001, 1003	K91000108	CTZ51A 6pF
TC1002	K91000089	CTZ51G 50pF
		INDUCTORS
L1005, 1006, 1011, 1022	L0020679	
L1002	L0021631	
L1003, 1004, 1016-1018, 1020, 1023	L1190138	LAL04NA 100K 10μH
L1007	L0020678	
L1008	L1020663	
L1009, 1010, 1012	L1020673	
L1013	L1020692A	
L1014	L0021356	
L1015	L1020688	
L1019	L1190319	LAL04NA 2R2M 2.2μH
L1021	L1190327	
		TRANSFORMERS
T1001-1008	L0020907	
T1009, 1011, 1012	L0021462	
T1013	L0020857	
		RELAY
RL1001	M1190052	MR-62-12S
		MINI CONNECTORS
J1001	P0090520	3022-03B
J1002	P0090594	3022-05B
		TERMINAL POSTS
	Q5000050	TP-K

PLL LOCAL UNIT

Symbol No.	Part No.	Name & Description
	F2800101	Printed Circuit Board
	C028000A	PCB with Components
		ICs
Q2004	G1090087	MC4044P
Q2005	G1090084	μPC 78L05
Q2006	G1090195	SN74LS73N
Q2007	G1090697	M54455L
		TRANSISTORS
Q2001-2003	G3327127G	2SC2712 GRTE85R
Q2010	G3320260	2SC2026
Q2012, 2013, 2016	G3326207B	2SC2620 QB
		FETs
Q2008, 2009, 2011	G3803027Y	2SK302Y
Q2014, 2015	G3802410Y	2SK241Y
		DIODES
D2001	G2090118	1SS97 Schottky
D2002, 2003	G2090107	1T25 Varactor
D2004, 2005	G2090237	MA190 Si
		THERMISTOR
TH2001	G9090008	31D26
		RESISTORS
R2002, 2018, 2032	J24205220	Chip RMC 1/10 -220J 22Ω
R2014, 2015, 2024, 2030, 2035	J24205470	〃 〃 -470J 47Ω
R2007, 2012, 2027	J24205101	〃 〃 -101J 100Ω
R2019, 2042, 2048	J24205151	〃 〃 -151J 150Ω
R2011, 2020, 2031, 2043	J24205331	〃 〃 -331J 330Ω
R2036, 2037, 2040, 2045	J24205471	〃 〃 -471J 470Ω
R2003-2005, 2008, 2022, 2026	J24205102	〃 〃 -102J 1kΩ
R2001, 2025	J24205152	〃 〃 -152J 1.5kΩ
R2049	J2420222	〃 〃 -222J 2.2kΩ
R2016, 2034	J24205332	〃 〃 -332J 3.3kΩ
R2028, 2041	J24205472	〃 〃 -472J 4.7kΩ
R2009, 2029	J24205682	〃 〃 -682J 6.8kΩ
R2017, 2033	J24205103	〃 〃 -103J 10kΩ
R2044	J24205333	〃 〃 -333J 33kΩ
R2038, 2039	J24205473	〃 〃 -473J 47kΩ
R2006, 2013, 2021	J24205104	〃 〃 -104J 100kΩ
R2010	J24205474	〃 〃 -474J 470kΩ
R2047	J01215221	Carbon Film 1/8W 220Ω TJ
R2050	J01215222	〃 〃 〃 2.2kΩ 〃
		CAPACITORS
C2025	K22170201	Chip Ceramic 50WV 0.5pFCH (C2012 CH1H 0R5CFA)
C2034	K22170204	〃 〃 〃 3pF 〃 (C2012 CH1H 030CFA)
C2020	K22170206	〃 〃 〃 5pF 〃 (C2012 CH1H 050CFA)
C2013	K22170208	〃 〃 〃 7pF 〃 (C2012 CH1H 070DFA)
C2038	K22170209	〃 〃 〃 8pF 〃 (C2012 CH1H 080DFA)
C2015	K22170210	〃 〃 〃 9pF 〃 (C2012 CH1H 090DFA)
C2029, 2030	K22170211	〃 〃 〃 10pF 〃 (C2012 CH1H 100DFA)
C2014, 2016	K22170213	〃 〃 〃 12pF 〃 (C2012 CH1H 120JFA)
C2033, 2035	K22170215	〃 〃 〃 15pF 〃 (C2012 CH1H 150JFA)
C2036	K22170219	〃 〃 〃 22pF 〃 (C2012 CH1H 220JFA)
C2042	K22170229	〃 〃 〃 56pF 〃 (C2012 CH1H 560CFA)
C2012, 2019, 2021-2024, 2026-2028, 2031, 2032, 2037, 2039, 2040, 2042, 2048	K22170805	〃 〃 〃 0.001μF B (C2012 B1H 102MFA)
C2003, 2006, 2008-2011, 2043-2047	K22170817	〃 〃 〃 0.01μF B (C2012 B1H 103MFA)
C2049	K02173070	Ceramic disc 50WV 7pF CH (DD104CH 070D50)
C2004	K52170002	Metallized Film 100WV 1μF (ECQ-V1H105JZ)
C2001	K50170019	Mylar 〃 0.1μF (50F2D 104M)
C2007, 2018	K40129004	Electrolytic 16WV 10μF (RE-16V 100M)

C2005	K40129002	Electrolytic 16WV 47µF (RE-16V 470M)			
C2002	K40129007	〃 〃 100µF (RE-16V 101M)			
		TRIMMER CAPACITOR			
TC2001	91000147	CT35A 6pF			
		INDUCTORS			
L2001-2003, 2010, 2011, 2013	L1190329	LAL04NA330K 33µH			
L2004, 2005, 2007	L1190236	LAL04NA2R2K 2.2µH			
L2006	L0021634	FEM85-4F			
L2008, 2009	L1020680				
L2012	L1190138	LAL04NA100K 10µH			
L2014	L1190131	LAL04NA1R8M 1.8µH			
L2015	L1190188	LAL04NAR22H 0.22µH			
		TRANSFORMERS			
T2001-2004	L0020907				
T2005	L0020825				
		MINI CONNECTORS			
J2001	P1090425	5124-03BH			
J2002	P1090427	5124-05BH			
		TERMINAL POSTS			
	Q5000050	TP-K			
	R0115290	Shield Case			
	R0115300	Shield Top			

FEX-767-7

MAIN CHASSIS		
Symbol No.	Part No.	Name & Description
		RECEPTACLE
J1 (A, B)	P1090547	N-RDS 020-0291 (N)
J1 (F)	P1090352	NR-S FM-MDR-MI (M)
		MAIN UNIT
	F2851101B	Printed Circuit Board
	C028511A	PCB with components
		ICs
Q1001	G1090341	M57716
Q1010	G1090002	SN7403N
Q1013	G1090084	μPC78L05
		FETs
Q1005, 1007	G3801250	2SK125
Q1006	G4801210G	3SK121GR
Q1008	G3802410G	2SK241GR
		TRANSISTORS
Q1002	G3314260	2SC1426
Q1003	G3324071	2SC2407(A)
Q1004	G3333550	2SC3355
Q1009, 1011, 1012	G3106840	2SA684
Q1014	G3090076	BA1L4L
		DIODES
D1001, 1002, 1005, 1006	G2090118	1SS97 Schottky
D1003, 1004, 1007-1009, 1012-1015	G2015550	1S1555 Si
	G2090044	MC301 〃
D1016	G2090247	ND487C1-3R Schottky Ring
		RESISTORS
R1001, 1015, 1031	J02225470	Carbon film 1/6W 47Ω UJ
R1009	J01225470	〃 〃 〃 47Ω PJ
R1006	J02245470	〃 〃 1/4W 47Ω SJ
R1002	J02245101	〃 〃 〃 100Ω 〃
R1003, 1017, 1026, 1027	J02225101	〃 〃 1/6W 100Ω UJ
R1011	J01225101	〃 〃 〃 100Ω PJ
R1014, 1045-1047	J02225151	〃 〃 〃 150Ω UJ
R1023	J01225151	〃 〃 〃 150Ω PJ
R1018, 1032	J02225221	〃 〃 〃 220Ω 〃
R1008	J01245270	〃 〃 1/4W 270Ω TJ
R1037	J02225331	〃 〃 1/6W 330Ω UJ
R1041	J01225331	〃 〃 〃 330Ω PJ
R1038	J02225471	〃 〃 〃 470Ω UJ
R1004, 1005, 1010, 1042	J01225471	〃 〃 〃 470Ω PJ
R1016, 1030, 1040, 1044	J02225102	〃 〃 〃 1kΩ UJ
R1034	J01225102	〃 〃 〃 1kΩ PJ
R1013, 1021	J02225152	〃 〃 〃 1.5kΩ UJ
R1012	J02225332	〃 〃 〃 3.3kΩ 〃
R1036	J02225472	〃 〃 〃 4.7kΩ 〃
R1022, 1035, 1039, 1043	J01225682	〃 〃 〃 6.8kΩ PJ
	J02225103	〃 〃 〃 10kΩ UJ
R1050, 1052, 1053	J01225473	〃 〃 〃 47kΩ PJ
R1019	J02225104	〃 〃 〃 100kΩ UJ
R1049	J01225154	〃 〃 〃 150kΩ PJ
R1051	J01225224	〃 〃 〃 220kΩ 〃
R1020	J01225225	〃 〃 〃 2.2MΩ 〃
R1007	J24205331	Chip RMC-1/10-331J 330Ω

		POTENTIOMETERS
VR1001	J51745331	H0651A004-330B 330ΩB
VR1002-1005	J51745473	H0651A017-47KB 47kΩB
		CAPACITORS
C1055	K02172159	Ceramic disc 50WV 1.5pF CH (D104CK1R5C50)
C1035, 1048, 1061	K02172030	〃 〃 〃 3pF 〃 (DD104CK030C50)
C1002	K02172040	〃 〃 〃 4pF 〃 (DD104CH040C50)
C1007-1009	K02172050	〃 〃 〃 5pF 〃 (DD104CH050C50)
C1028	K02173060	〃 〃 〃 6pF 〃 (DD104CH060D50)
C1047	K02173090	〃 〃 〃 9pF 〃 (DD104CH090D50)
C1026	K02175150	〃 〃 〃 15pF 〃 (DD104CH150J50)
C1021	K02175180	〃 〃 〃 18pF 〃 (DD104CH180D50)
C1049	K02179009	〃 〃 〃 22pF 〃 (DD104CH220J50)
C1031	K02175330	〃 〃 〃 33pF 〃 (DD105CH330J50)
C1077, 1078	K02175680	〃 〃 〃 68pF 〃 (DD107CH680J50)
C1003-1006, 1010, 1012, 1014, 1016, 1018, 1019, 1023, 1024, 1029, 1030, 1033, 1034, 1036-1041, 1044-1046, 1050, 1052-1054, 1057-1060, 1064-1068, 1070, 1075	K10176102	〃 〃 〃 0.001μF B (DD104B102K50)
C1071, 1074	K13179008	〃 〃 〃 0.01μF F (DD106F103Z50)
C1025, 1051	K22170805	Chip Ceramic 50WV0.001μFB (C2012B1H102MFA)
C1011, 1013, 1015, 1017, 1020, 1022, 1072, 1073, 1079	K40129004	Electrolytic 16WV 10μF (RE-16V100M)
		TRIMMER CAPACITORS
TC1001-1003	K91000108	VCT51A 6pF
		INDUCTORS
L1004, 1005, 1015, 1026	L0021273	
L1002, 1003, 1014, 1025, 1027, 1030	L1190199	LAL03NA 2R2M
L1007-1009, 1018	L1020673	
L1006	L1020663	
L1010	L0020900	
L1011	L0020474	
L1012, 1017	L0021359	
L1001	L0021590	
L1019, 1020	L0190007	
L1021	L1190264	L-C3A 330MA 33μH
L1022	L0020342	
L1023	L0020472	
L1024	L0020678	
L1031	L1190190	0.27μH
	L1190258	L-C3A 100KA

L1032, 1033	L1190295	LAL02NA100K
		TRANSFORMER
T1001	L0021546	
		CAVITIES
CV1001-1004	L4020026	CV-441B
		RELAY
RL1001	M1190063	G5Y-154P-DC6V
		CONNECTOR
	P0090520	3022-03B
P1002	P0090594	3022-05B
		TERMINAL POSTS
		COIL CASE
	L9190016	7×7
	L9190019	10×10
PLL LOCAL UNIT		
	F2852101A	Printed Circuit Board
	C028521A	PCB with components
		ICs
Q2004-2006	G1090653	μPC 1651G
Q2008	G1090498	μPB 571C
Q2010	G1090473	TC5081AP
Q2011, 2012	G1090247	TC9122P
		FETs
Q2001	G3801921G	2SK192AGR
Q2002	G3802410Y	2SK241Y
		TRANSISTORS
Q2003	G3320260	2SC2026
Q2007	G3333540T	2SC3354T
Q2009, 2013	G3309450P	2SC945P
Q2014	G3111150E	2SA1115E
		DIODES
D2001, 2002	G2090248	1T32 Varactor
D2003	G2090247	ND487C1-3R Schottky Ring
D2004-2007	G2015550	1S1555 Si
		RESISTORS
R2011-2013	J02225220	Carbon film 1/6W 22Ω UJ
R2002	J02225390	〃 〃 〃 39Ω 〃
R2005, 2006, 2010	J02225470	〃 〃 〃 47Ω 〃
R2019	J02225560	〃 〃 〃 56Ω 〃
R2003, 2018, 2031, 2037	J02225101	〃 〃 〃 100Ω 〃
R2034	J01225101	〃 〃 〃 100Ω PJ
R2023, 2028	J02225151	〃 〃 〃 150Ω UJ
R2009, 2016	J02225221	〃 〃 〃 220Ω 〃
R2017, 2032	J01225221	〃 〃 〃 220Ω PJ
R2022, 2027	J02225331	〃 〃 〃 330Ω UJ
R2026	J02225122	〃 〃 〃 1.2kΩ 〃
R2025	J01225152	〃 〃 〃 1.5kΩ PJ
R2008, 2024	J02225222	〃 〃 〃 2.2kΩ UJ
R2014	J02225332	〃 〃 〃 3.3kΩ 〃
R2036	J01225103	〃 〃 〃 10kΩ PJ
R2007	J02225103	〃 〃 〃 10kΩ UJ
R2015, 2021, 2030	J02225183	〃 〃 〃 18kΩ 〃
R2033, 2035	J01225223	〃 〃 〃 22kΩ PJ
R2020, 2029	J02225333	〃 〃 〃 33kΩ UJ
R2001, 2004	J02225104	〃 〃 〃 100kΩUJ
		CAPACITORS
C2008	K02172020	Ceramic disc 50WV 2pFCH (DD104CK020C50)

C2002(A)	K02172030	〃 〃 〃 3pF 〃 (DD104CJ030C50)
C2001	K02172040	〃 〃 〃 4pF 〃 (DD104CH040C50)
C2002(B,F), 2014	K02172050	〃 〃 〃 5pF 〃 (DD104CH050C50)
C2029	K02173060	〃 〃 〃 6pF 〃 (DD104CH060D50)
C2004	K02173070	〃 〃 〃 7pF 〃 (DD104CH070D50)
C2003	K02173090	〃 〃 〃 9pF 〃 (DD104CH090D50)
C2015, 2016, 2055(B,F), 2056(B,F)	K02173100	〃 〃 〃 10pF 〃 (DD104CH100D50)
C2005	K02175120	〃 〃 〃 12pF 〃 (DD104CH120J50)
C2011	K02179009	〃 〃 〃 22pF 〃 (DD104CH220J50)
C2007, 2009, 2010, 2012, 2013, 2017-2021, 2024, 2025, 2026, 2031, 2035	K10176102	〃 〃 〃 0.001μF B (DD104B102K50)
C2022, 2023, 2027, 2028, 2030, 2032-2034 2036-2038, 2041, 2043-2048, 2050, 2051	K13179008	〃 〃 〃 0.01μF F (DD106F103Z50)
C2042	K50170019	Mylar 50WV 0.1μF (50F2D 104M)
C2040	K40179013	Electrolytic 〃 1μF (RE-50V 010M)
C2039	K40129004	〃 〃 10μF (RE-16V 100M)
C2049	K40129042	〃 〃 100μF (RE2-16V 101M)
C2006	K40109024	〃 10WV 100μF (RE2-10V101M)
C2053, 2054	K70127225	Tantalum 16WV 2.2μF (DN1C2R2MIS)
		TRIMMER CAPACITOR
TC2001	K91000148	VCT31A 157A 6pF
		CAVITIES
CV2001, 2002 (A)	L4020014	CV500A
CV2001, 2002(B,F)	L4020015	CV480A
CV2003, 2004	L4020018	CV420A
		INDUCTORS
L2001, 2002, 2004	L1190199	LAL03NA2R2M 2.2μH
L2003	L0021688	
L2005	L1020680	
L2006	L0020903	
L2007, 2008, 2013	L1190148	LAL03NA100K 10μH
L2009-2012	L1190212	LAL03NA330K 33μH
		TRANSFORMERS
T2001, 2002	L0190007	
		THERMISTOR
TH2001	G9090008	31D26
		CONNECTORS
J2001	P0090192	B03B-XH-A
J2002	P1090427	5124-05BH
		TERMINAL POSTS
TP2001	Q5000050	TP-K
	R0115290	Shield case
	R0115300	〃 Top

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